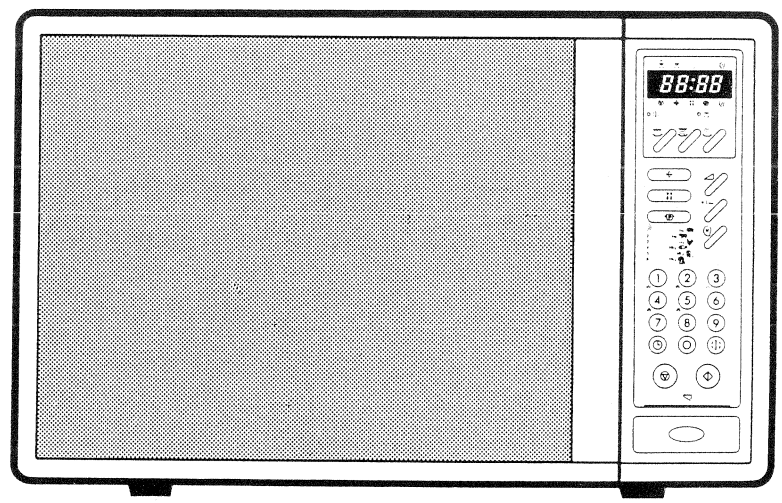
MICROWAVE OVEN

Service Manual

Model: KOG-892X



PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY.

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) Interlock operation (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A microwave leakage check to verity compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

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CAUTION

This Device is to be Serviced Only by Properly Qualified Service Personnel. Consult the Service Manual for Proper Service Procedures to Assure Continued Safety Operation and for Precautions to be Taken to Avoid Possible Exposure to Excessive Microwave Energy.

PROPER USE AND PRECAUTIONS

1. For Safe Operation

Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury to the operator.
IF ANY OF THE FOLLOWING CONDITIONS EXIST, OPERATOR MUST NOT USE THE APPLIANCE. (Only trained service personnel should make repairs.)

1) A broken door hinge.
2) A broken door screen.
3) A broken front panel, oven cavity.
4) A loosened door lock.
5) A broken door lock.

The door gasket plate, and oven cavity surface should be kept clean.
No grease, soil or spatter should be allowed to build up on these surface or inside the oven.
DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN. The microwave oven has concealed switches to make sure the power is turned off when the door is opened. Do not attempt to defeat them.

DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2. For Safe Service Procedures.

1) This microwave oven weights 23.5kg (51.8 lbs) and must be placed on a horizontal base strong enough to support this weight.
2) The oven should be placed as far from high temperature heat source and vapour as possible.
3) The power supply cord is 1.6m (5.25ft) long. Grounding is required when connecting the power source.
4) Maximum power consumption of this oven is approximately 2.60KW. It is suggested that the unit is operated on such power line that can provide more power than this rating.
5) Objects must not be placed on the top enclosure so as not to obstruct air flow for ventilation.

CAUTION

MICROWAVE RADIATION

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS, WAVEGUIDES, FLANGES, AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

SPECIFICATIONS

Power Supply		230V single phase with grounding 50Hz AC
Microwave	Power Consumption	1.3 KW
	Output Power	800 W
	Frequency	2,450 MHz
Grill Power Consumption		1.35 KW
Combination Heating Power Consumption		2.6 KW
Outside Dimensions (W × H × D)		526(20.7) × 360(14.2) × 470(18.5) mm (inch)
Cavity Dimensions (W × H × D)		330(13.0) × 261(10.3) × 343(13.5) mm (inch)
Net Weight		Approx. 23 kg (50.7 lbs.)
Timer		Digital Timer 99 min. 99 Sec. (Grill: 30 min.)
Select Function		Microwav/Defrost/Grill/Combination/Rotate Program Cook
Microwave Power Level		5 (High)/4 (Med High)/3 (Med)/ 2 (Med Low)/1 (Low)

*(Specifications subject to change without notice.)

EXTERNAL VIEWS

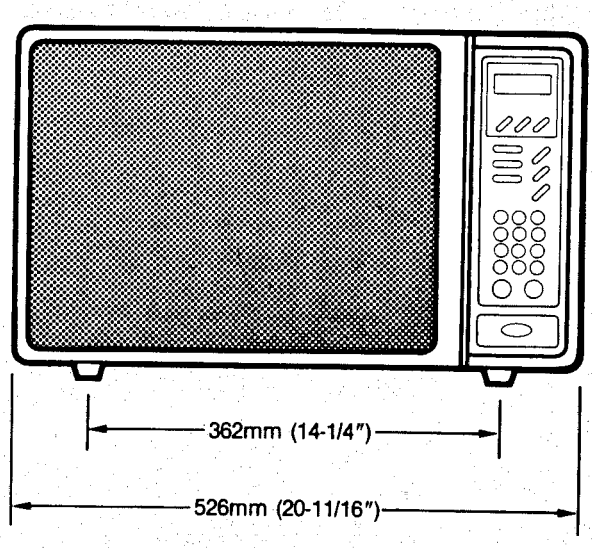


Fig. 1 Front View

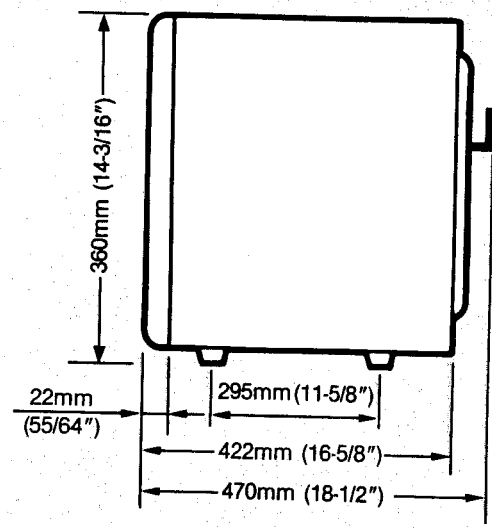


Fig. 2 Side View

FEATURES

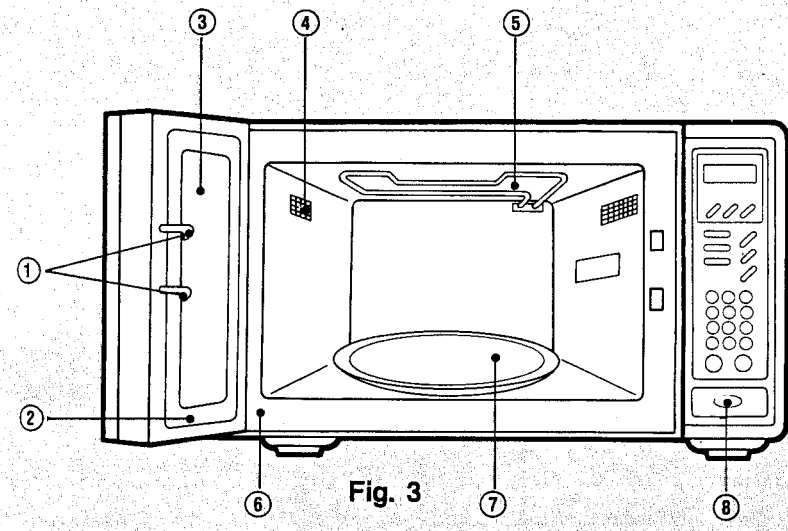


Fig. 3

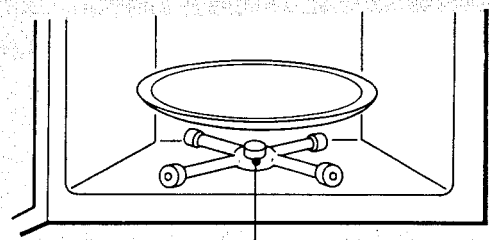


Fig. 4

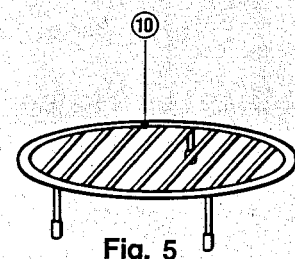


Fig. 5

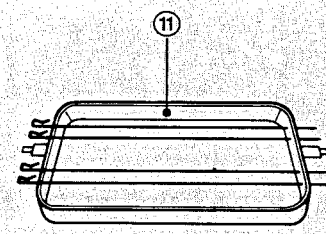


Fig. 6

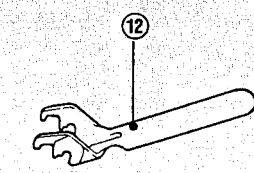


Fig. 7

① **DOOR HOOK**
When door is closed, it will automatically lock shut. If door is opened while oven is operating, magnetron tube will immediately stop operating.

② **DOOR SEAL**
Door seal maintains the microwave with the oven cavity and prevents microwave leakage.

③ **DOOR SCREEN**
Allows viewing of food. Microwave cannot pass through perforations in screen.

④ **OVEN LAMP**
Automatically turns on during door opening.

⑤ **HEATER**
Turns on when grill or combination cooking is selected.

⑥ **OVEN FRONT PLATE**
Metal frame surrounding oven opening.

⑦ **TURNTABLE TRAY**
Rotates during cooking and ensure even distribution of Microwaves. It can also be used as a cooking utensil.

⑧ **DOOR OPENING BUTTON**
To open the door, push the door opening button. When door is closed, it will automatically lock shut. If door is opened while oven is operating, magnetron tube will immediately stop operating.

⑨ **ROTATING BASE**
This fits over the shaft in the center of the oven's cavity floor. This is to remain in the oven for all cooking. It should only be removed for cleaning.

⑩ **METAL RACK**

⑪ **ROTO-GADGET**

⑫ **TONGS**

CONTROL PANEL

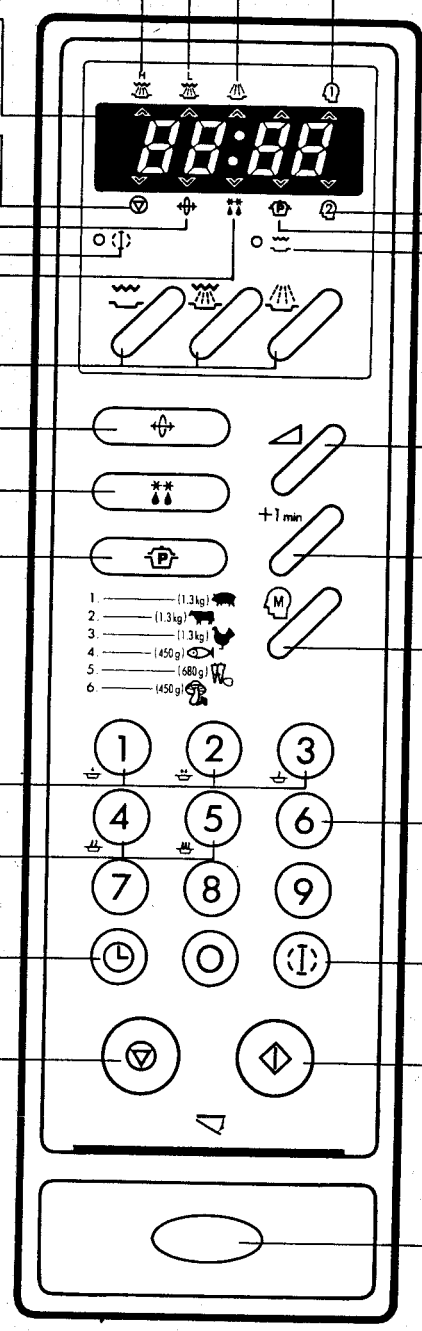


Fig. 8

OPERATION

1. Plug power supply cord into a standard 3-pronged 15 Amp. power outlet.
2. After placing the food in a suitable utensil, open the oven door and put it on the tray. Tray must always be in place during cooking.
3. Shut the door. Make sure that it is firmly closed.
4. How to set the oven controls,

1) CLOCK
   (1) Touch (clock) pad.
   (2) Touch the numeral pads for the desired time.
   (3) Touch pad.

2) MICROWAVE COOKING
   (1) Touch (microwave) pad.
   (2) Touch the numeral pads for the desired cooking time.

NOTE: If steps (3) and (4) are omitted, the oven will cook at full power.
   (3) Touch (power level) pad.
   (4) Touch to select the desired microwave power level from (1) to (5)
   (5) Touch (start) pad.

3) PROGRRAM DEFROST
   (1) Touch (program-defrost) pad.
   (2) Touch the numeral pads for the desired defrosting time.
   (3) Touch (start) pad.

4) GRILLING COOKING
   (1) Touch (grill) pad.
   (2) Touch the numeral pads for the desired cooking time.
   (3) Touch (start) pad.

5) COMBINATION COOKING
   (1) Touch (combi) pad.
   (2) Touch the numeral pad (1) or (5) the desired cooking function.
   (3) Touch the numeral pads for the desired cooking time.
   (4) Touch (start) pad.

6) ROTATE FUNCTION
   (1) Touch (rotate) pad.
   (2) Touch (combi) pad.
   (3) Touch the numeral pad (1) or (5) the desired cooking function.
   (4) Touch the numeral pads for the desired cooking time.
   (5) Touch (start) pad.

7) PRESET
   (1) Set the clock or make sure it is set for the correct time of day.
   (2) Touch (preset) pad.
   (3) Touch the numeral pads for the desired preset time.
   (4) Set the cooking program(s).
   (5) Touch (start) pad.

8) MEMORY

* To memorize the desired cooking.
   (1) Touch to select the desired cooking function and time.
   (2) Touch (memory) pad.
   (3) Touch the numeral pad (1) or (2) the desired memory.
   (4) Touch (start) pad.

* To recall the memorized cooking.
   (1) Touch (pause/clear) pad.
   (2) Touch to select the desired memorized cooking.
   (3) Touch (start) pad.

9) MINUTE PLUS
   (1) Touch to select the desired cooking function and time.
   (2) Touch once +1 min (minute plus) pad.

10) PROGRAM COOK
   (1) Touch (program cook) pad.
   (2) Select the desired cooking.
   (3) If you want to select other cooking, touch the (program cook) pad once and again until cooking that you desired is displayed.
   (4) Touch (start) pad.

NOTE:
- When using COMBI or COMBI rotate modes, please refer to cooking guide.
- When you cook big lump of food (ex: chicken, roast pork, roast beef, etc.), steam can be leak out over the door or under sides, sometimes water drop can be drop under floor below the door.
- So you don't need to worry about if the oven is out of water, the oven is not failure.

INTERLOCK MECHANISM FUNCTIONS AND ADJUSTMENTS

The door lock mechanism is a device which has been specially designed to completely eliminate microwave radiation when the door is opened during cooking, and thus to perfectly prevent the danger resulting from the leakage of microwave.

Whenever the door lock mechanism is repaired, checd the continuity of interlock switches according to "Electrical Continuity Check of Interlock Switches" on page 22 and check the microwave leakage according to "Microwave Leakage Test" on page 23.

1. Primary and Secondary Interlock Switches and Interlock Monitor Switch

1-1. Mechanical Function

When the door is closed, the hooks snap on the latch on the oven body, locking the oven door.. If the door is not closed properly, the oven will not Operate. Fig. 9 shows the closed door condition. When the door is closed, the tip of the top hook presses the lever of primary interlock switch, and the lower hook pushs the slider of the interlock monitor switch to bring it to open, and the tip of the hook pushes the slider (1) and then the slider (1) presses the lever of secondary interlock switch to bring it under "ON" condition. (Fig. 9).

1-2. Pushing the Door-Opening Button

Pushing the door-opening button to open the door mechanically moves the slider (1) upward which in turn, raises the hook, then the switch button pushes the levers upward and turns off the interlock switches (primary and secondary interlock switches), and then the interlock monitor switch is closed. (Refer to Fig. 10)

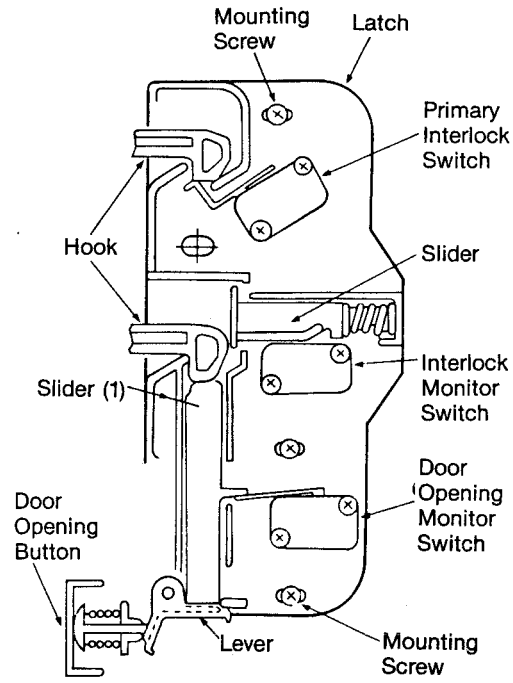


Fig. 9

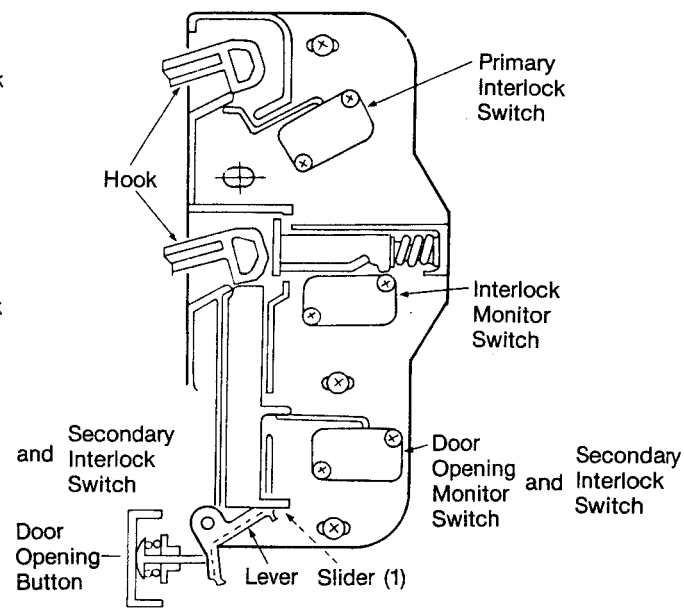


Fig. 10

2. Adjustment Procedure

(1) Preliminaries:

The Primary ans Secondary Interlock switch should be adjusted as below.

Primary Interlock Switch—The movement of the lever of the primary interlock switch is lowered by 4mm (5/32″) measured at the top of the lever. (Refer to Fig. 11)

Secondary Interlock Switch—The Movement of the lever of the secondary interlock switch is lowered by 4mm (5/32″) measured at the top of the lever. (Refer to Fig. 12)

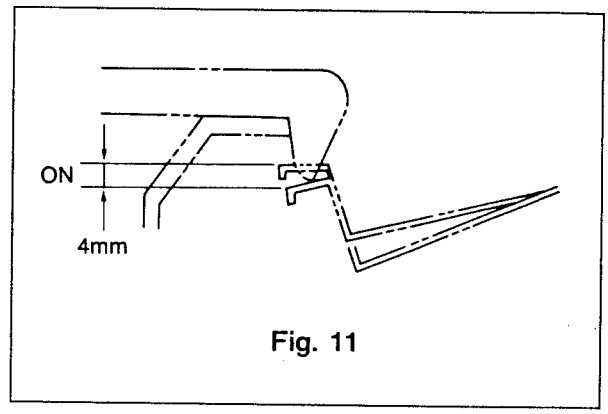


Fig. 11

(2) Adjustment Steps:

a) Loosen the latch Mounting screws.
b) Adjust the primary and secondary interlock switch assembly position.
c) Confirm the movement described on (1).
d) Tighten the latch mounting screws.

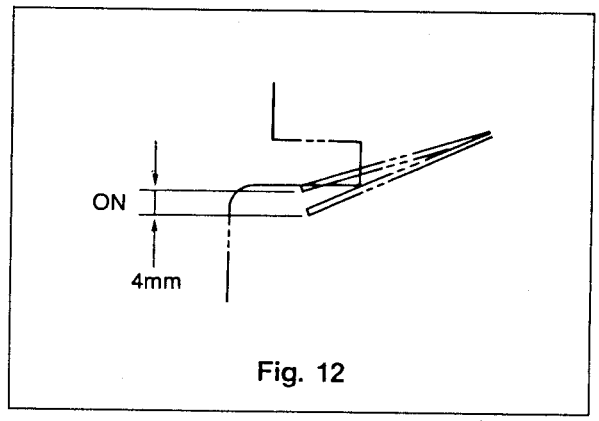


Fig. 12

DISASSEMBLY INSTRUCTIONS

1. Cabinet Removal (Refer to Fig. 13)

1) Remove six screws ①to ⑥ on cabinet back.
2) Remove four screws ⑦to ⑩ on cabinet side.

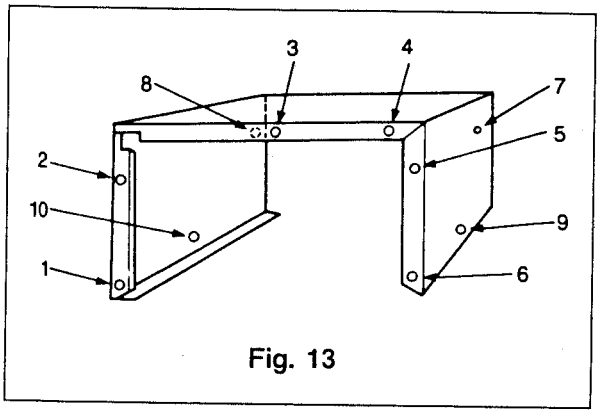


Fig. 13

2. Blower Motor Removal (Refer to Fig. 14)

1) Remove the cabinet parts.
2) Remove two screws ②
3) Remove blower motor assembly ④.

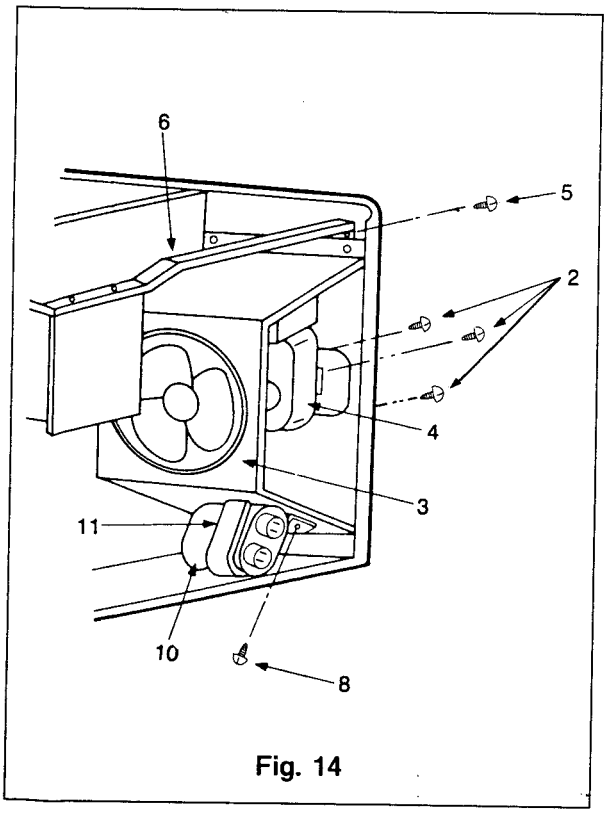


Fig. 14

3. Capacitor Removal (Refer to Fig. 14, Fig. 15)

1) Remove the cabinet parts.
2) Remove screws ⑤.
3) Remove channel ⑥.
4) Remove screws ⑨.
5) Remove screw ①.
6) Remove back plate 'B' assembly.
7) Remove back ⑧.
8) Remove a capacitor bracket ⑪ with capacitor ⑩.

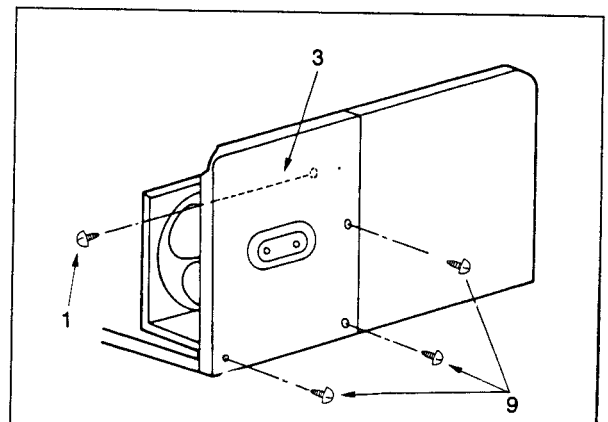
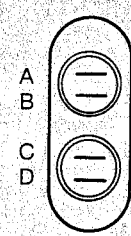


Fig. 15

CAUTIONS:
HV-Lead from transformer to capacitor must be connected to outside terminal 'A' or 'B'.



B: H.V. Fuse
C: Magnetron
D: H.V. Rectifier

4. Transformer Removal (Refer to Fig. 16)

1) Remove the cabinet parts.
2) Remove three bolts ①.
3) Remove the trnsformer ②.

CAUTION:
Filament leads connected to magnetron must be routed away from trnsformer core, primary winding, primary lead, primary terminal of transformer and any metal parts.

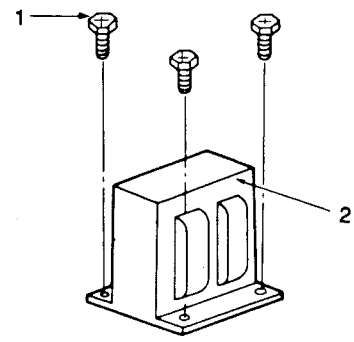


Fig. 16

5. Heater Assembly Removal (Refer to Fig. 17)

1) Remove the cabinet parts.
2) Remove back plate 'A'.
3) Remove two screews ①.
4) Remove two nuts ③.
5) Remove sheath heater ②.

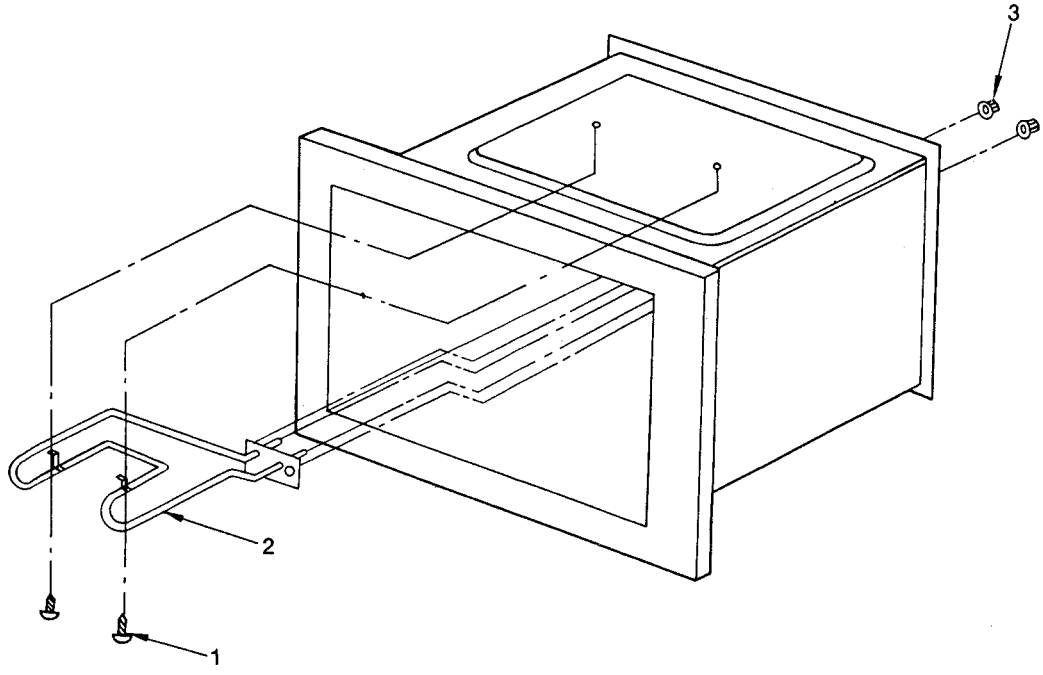


Fig. 17

6. Control Panel Assembly Removal

6-1 control Panel Assembly (Refer to Fig. 18)

1) Remove the cabinet parts.
2) Remove the channel.
3) Disconnect connectors T1, T2, T3, T4, on the DMP-881C board assembly.
4) Remove three screws ① holding panel assembly to the oven front and to the base.
5) Pull out the panel assembly from oven front.

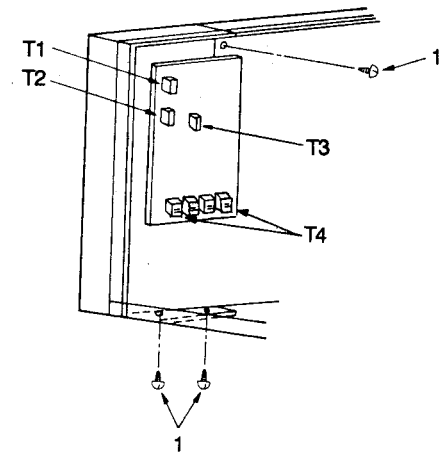


Fig. 18

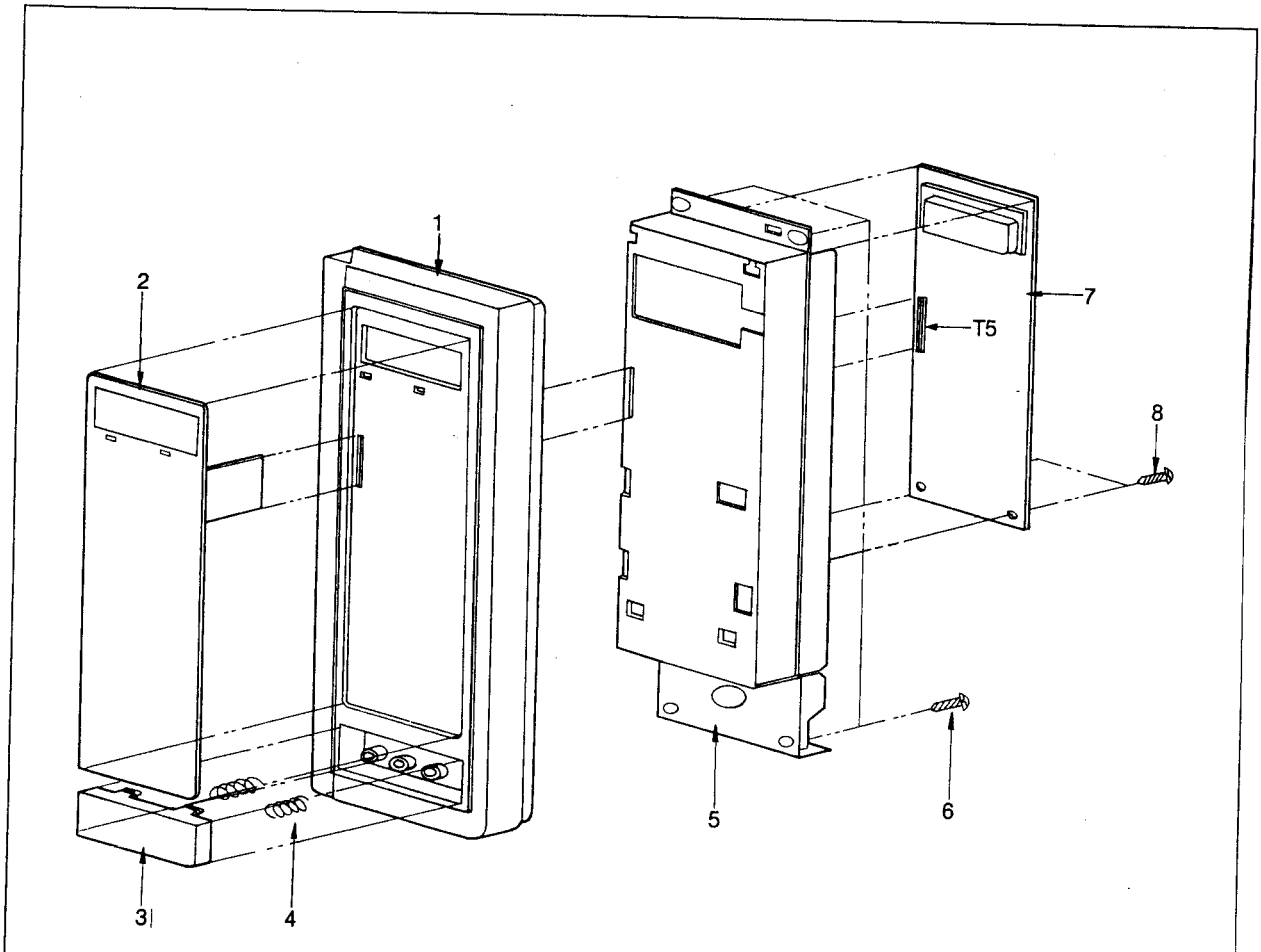


Fig. 19

6-2. Keyboard assembly and PC Board Assembly (Refer to Fig. 18, 19)

1) Remove the control panel assembly as directed in "6-1 Control Panel Assembly Removal".
2) Remove four screws ⑥ holding back plate C ⑤ to the panel control ①.
3) Disconnect connector (T5) from the DMP-881C board assembly ⑦.
4) Remove two screw ⑧.
5) Remove the board assembly ⑦ from the back plate C. ⑤.

7. Magnetron Assembly Removal (Refer to Fig. 20)

1) Remove the cabinet parts.
2) Remove the channel.
3) Remove the control panel assembly.
4) Remove the lead wires ① from the magnetron.
5) Remove screw ②.
6) Remove damper, assembly ⑥.
7) Remove two screws ④ holding the magnetron thermostat ⑨.
8) Remove two screw ③ holding the plate ⑧.
9) Remove four screws ⑤ holding the magnetron ⑦.

CAUTION-MICROWAVE LEAKAGE

Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage.
(Refer to Figs. 21, 22)

Whenever repair work is carried out on magnetron, check the microwave leakage according to the procedure specified in the "Microwave Leakage Test" on pae 23.

8. Door Asembly Removal (Refer to Fig. 23)

1) Remove the cabinet parts.
2) Remove two screws ① which secure the top door hinge ③.
3) Remove three screws ② which secure the bottom door hinge ④.
4) Remove door assembly ⑤.

.... DO NOT OPERATE WITHOUT CABINET ....

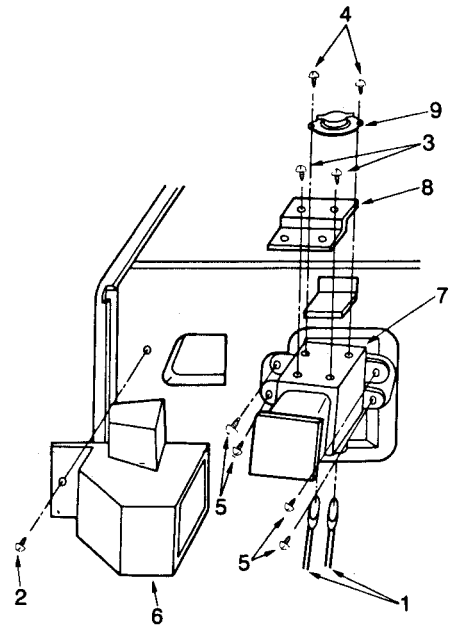


Fig. 20

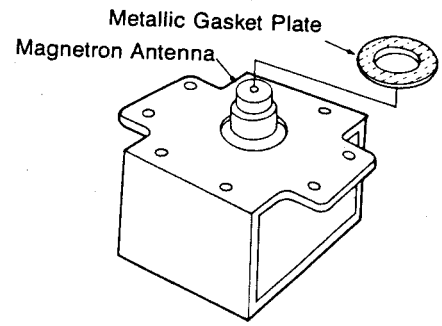


Fig. 21

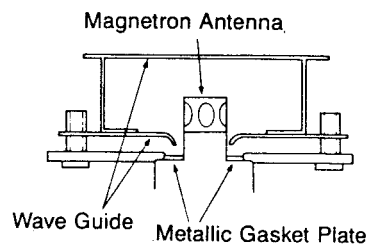


Fig. 22

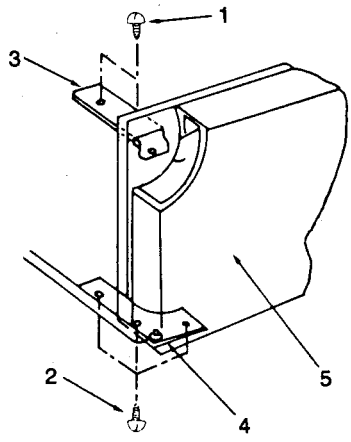


Fig. 23

9. Door Cover and outer Barrier Removal (Refer to Fig. 24, 25, 26)

1) Remove door assembly.
2) Remove three screws ① which secure the door weld a ssembly ③.
3) Disengage four insides of door cover ⑤ from the door seal ⑥ of door weld assembly usin with a thin metal plate or screw driver ⑦ as indicated (refer to Fig. 25).
4) Remove the door cover.
5) Disengage three insides of door frame ② from the projections ⑧ of door weld assembly using with a thin metal plate or screw driver ⑦ as indicated (Refer to Fig. 25, 26)
6) Detach the door frame.
7) Detach outer barrier ④.

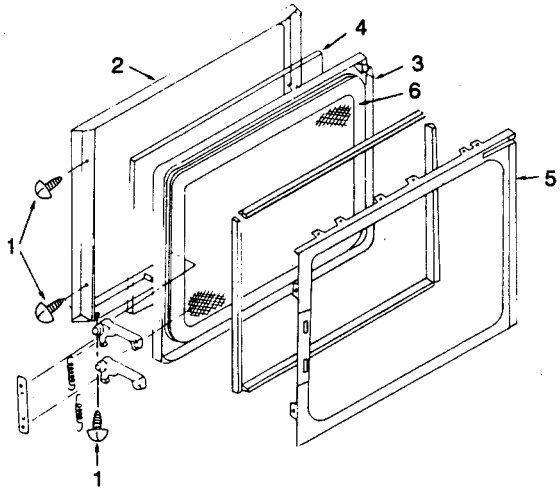


Fig. 24

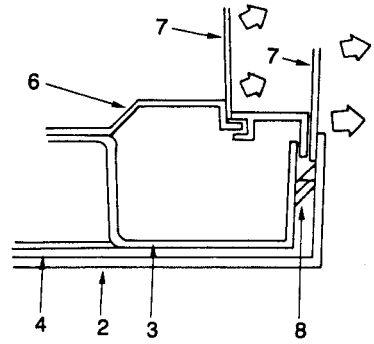


Fig. 25

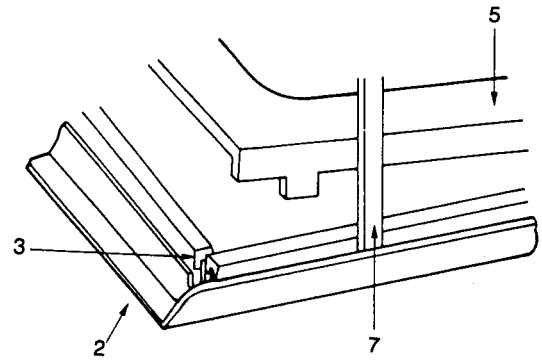


Fig. 26

10. Ventilation Duct Assembly Removal (Refer to Fig. 27)

1) Remove the cabinet parts.
2) Remove three screws ① inside of the oven cavity.
3) Remove two screws ⑦ in the top of oven cavity.
4) Remove a screw ②.
5) Remove ventilation duct assembly ③.
6) Remove lamp assembly ⑤.

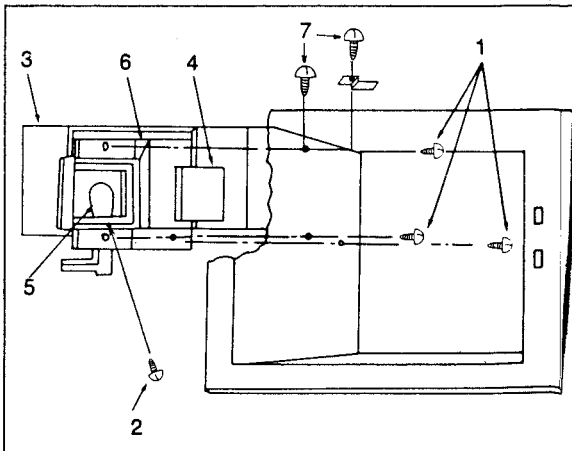


Fig. 27

11. Turn—Table Motor Assembly Removal (Refer to Fig. 28)

1) Remove the cabinet parts.
2) Cut the motor cover parts ② from the base. (Refer to Note 1)
3) Remove turn-table motor cover ②.
4) Remove two screw ③.
5) Remove turn-table motor ⑤.

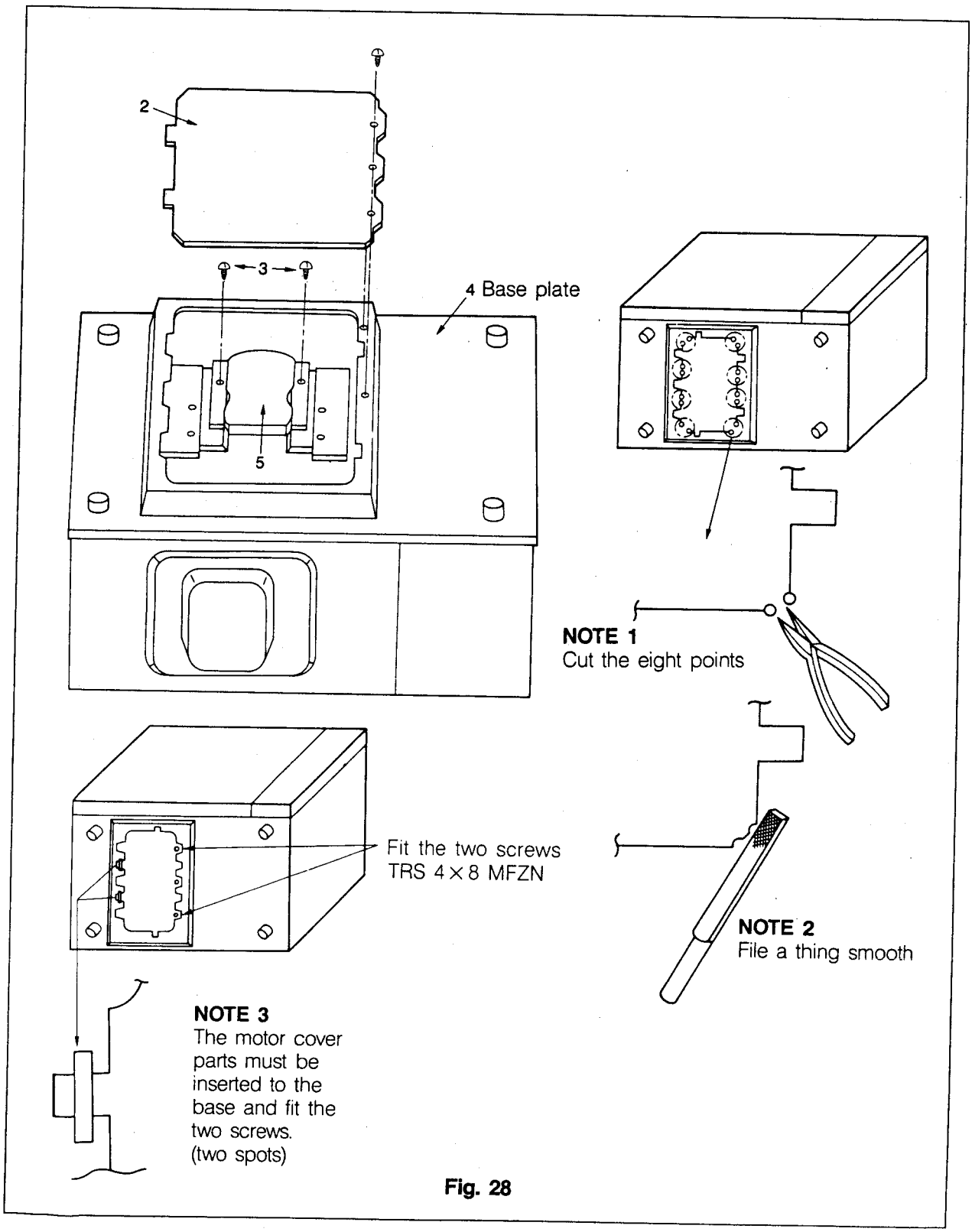


Fig. 28

12. Check the Gap between the Door Seal and the Oven Front Plate (Refer to Fig. 29)

1) Prepare a piece of paper and cut it approx. 25mm (1") wide by 100mm (4") long.
2) Open the door and put it on the oven front plate
3) Close the door the hold it between the door seal and the oven front.
4) Draw out the paper. If it is not drawn smoothly, the door seal is working properly.
5) Repeat above procedure at other serveral position to check for possible gap around the door. But if any gap are found, adjust the position of the hinge or the latch psotion of interlocks according to the steps described on item 13 "Hinge and Latch Position Adjustment".

NOTE:
Small gap may be acceptable if the microwave leakage does not exceed 4mW/cm^2.

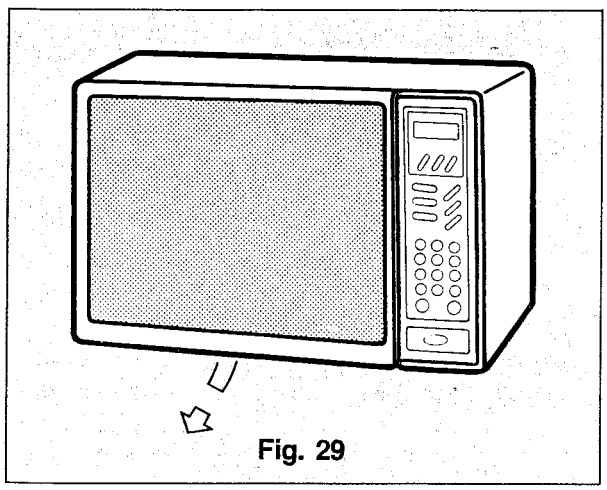


Fig. 29

13. Hinge and Latch Position Adjustment

(Method to reduce the gap between the door seal and the oven front)

1) To reduce the gap located on part "A". (See Fig. 30)
   a) Loosen three screws on bottom hinge, then push the door to contact the door seal to oven front.
   b) Tighten three screws.
   c) check the gap as item 13.
2) To reduce the gap located on part "B". (See Fig. 30)
   a) Loosen two screws on top hinge, then push the door to contact the door seal to oven front.
   b) Tighten two screws.
   c) Check the gap as item 13.
3) To reduce the gap located on part "C" and "D" (See Fig. 30)
   a) Loosen screws on latch located right of oven body. (See Fig. 31)
   b) Draw the latch inward slightly.
   c) Tighten screws.
   d) Check the gap as item 12.

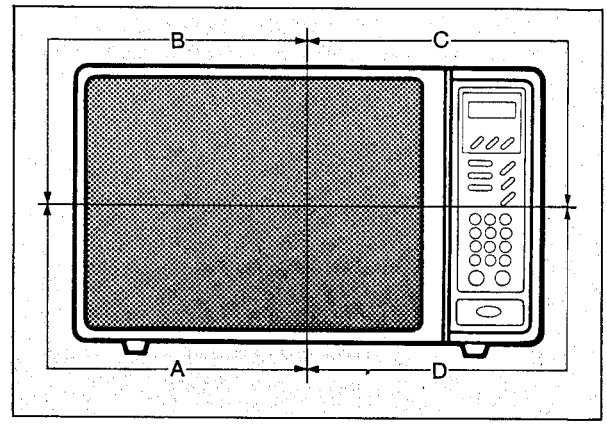


Fig. 30

CAUTION:
Whenever any door parts are repaired or replaced, or hinge and latch position adjusted, check continuity of interlock according to "Electrical Continuity Check of interlock Switch" on page 22 and check microwave leakage according to "Microwave Leakage Test" on page 23.

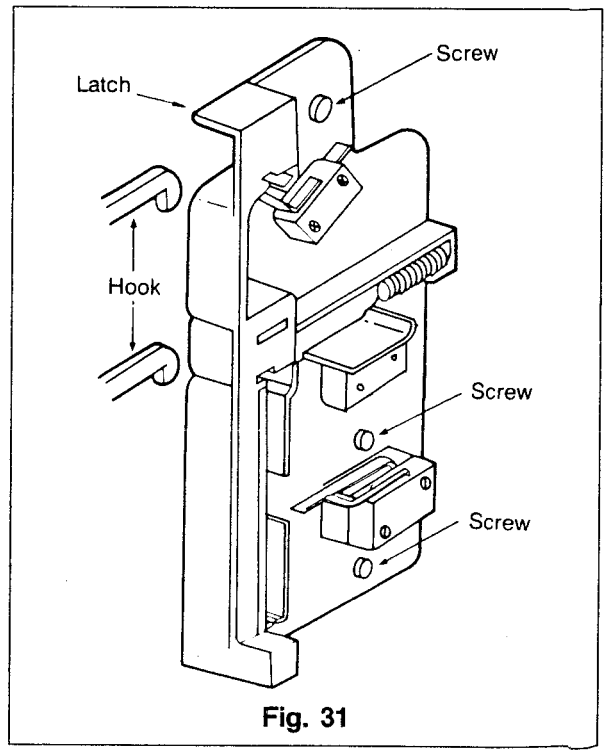


Fig. 31

TROUBLE SHOOTING CHART

DANGER OF HIGH VOLTAGE

4000 volts exist at the high voltage area. Do not operate the oven with the cabinet parts removed. Do not remove the cabinet parts unless the power cord is unplugged from wall outlet.

Determine whether or not a defect is in the control panel block or others first.
The control panel assembly is divided into membrane, PC Board Assembly.
When they are judged to be defect according to following troubleshooting chart, they should be replaced by until. Do not check, repair or adjust the control panel block, unless the power cord is unplugged from wall outlet.

1. Troubleshooting by unit replacement according to the symptoms indicated

1-1. Membrane

The following symptoms indicate a defective membrane. Replace the membrane.

1) When touching the pads, a certain pad produces no signal at all.
2) when touching a numeral pad, two figures or more are displayed.
3) When touching any pads, sometimes a pad produces no signal.
4) Only one indicator does not light up.

1-2. PC Board Assembly

The following symptoms indicate a defective PC board assembly. Replace the PC board assembly.

1) In connection with membrane
   a) When touching any pads, a certain group of pads do not produce the signal.
   b) When touching any pads, a certain group of pads do not produce the signal.
   c) Clock does not operate proper.
2) Fluorescent Display
   a) The correspoinding segments of all digits do not light up, or they continue to light up.
   b) Wrong figure appears.
   c) The figures of all digits flicker.
3) Other possible troubles
   a) Buzzer does not sound or continues to sound.
   b) When defrost cooking is started, ERR3 appears, then the oven sensor is fault.

1-3. Check the oven sensor

If the oven sensor does not fall into value between maximum and mimimum, it is fault.

1-3. Check the oven sensor

If the oven sensor does not fall into value between maximum and minimum, it is fault.

(**Example:** Resistor is 219Ω 12% 25°C (77°F)
Refer to Fig. 32, 33)

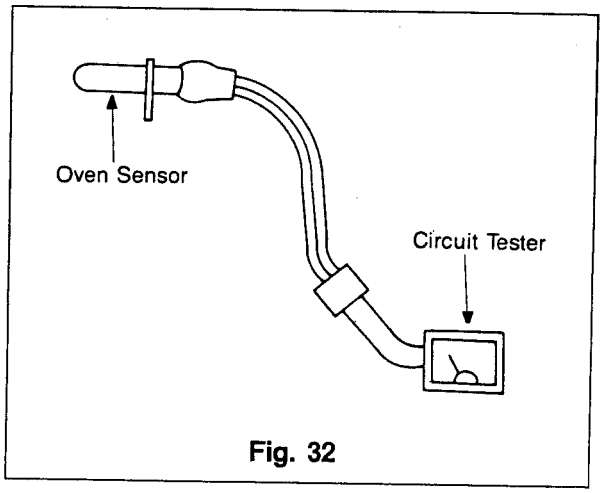
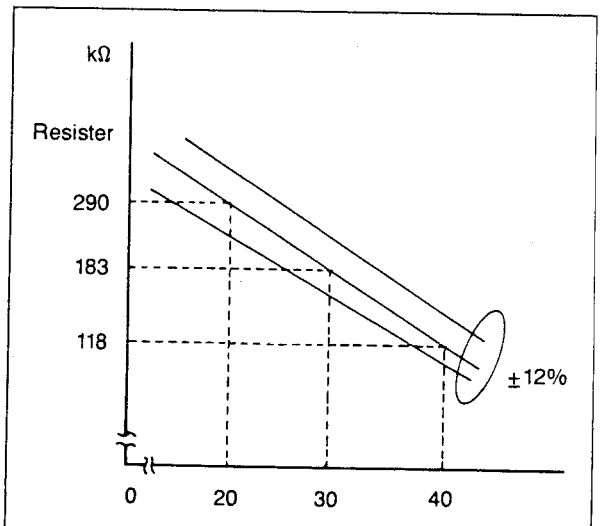


Fig. 32



Oven Sensor Temperature

Fig. 33

2. Fuse is blown out

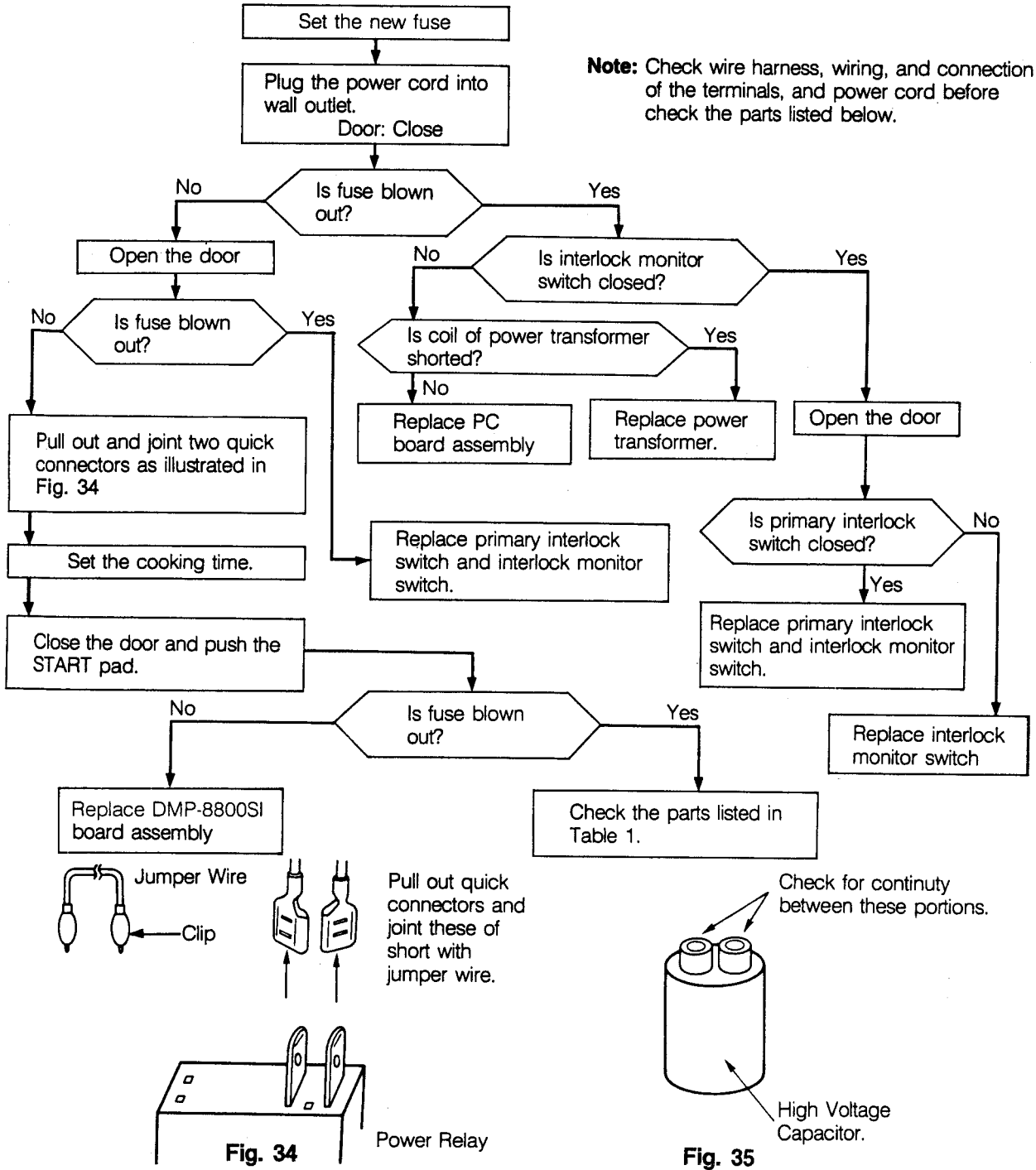


Table 1

Parts	Cause	Diagnosis	Remedy
HV Transformer	1) Layer short on the secondary winding.	The fuse does not blow right away, but it blows in a few seconds, then there is a layer shorts	Replace HV transformer
HV Capacitor	2) Poor insulation between capacitor terminals.	Check for the continuity between capacitor terminals. If therre is continuity, capacitor is defective. (See Fig. 35).	Replace HV capacitor

Note: When electric parts are checked or replaced, be sure the power cord is not inserted the wall outlet.

3. Heater does not heat (Food will not become hot)

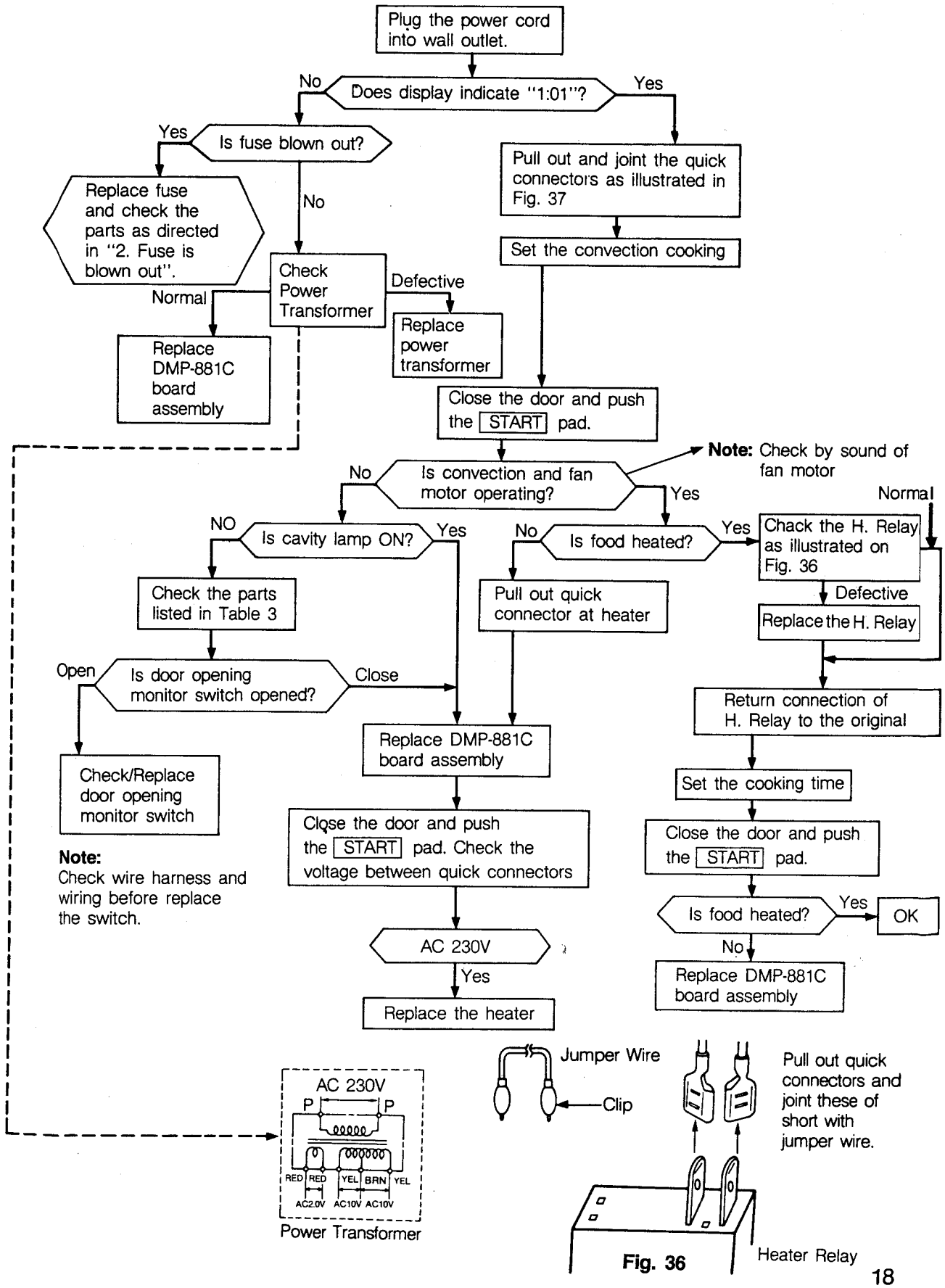


Fig. 36

4. Magnetron does not operate (Food will not become hot)

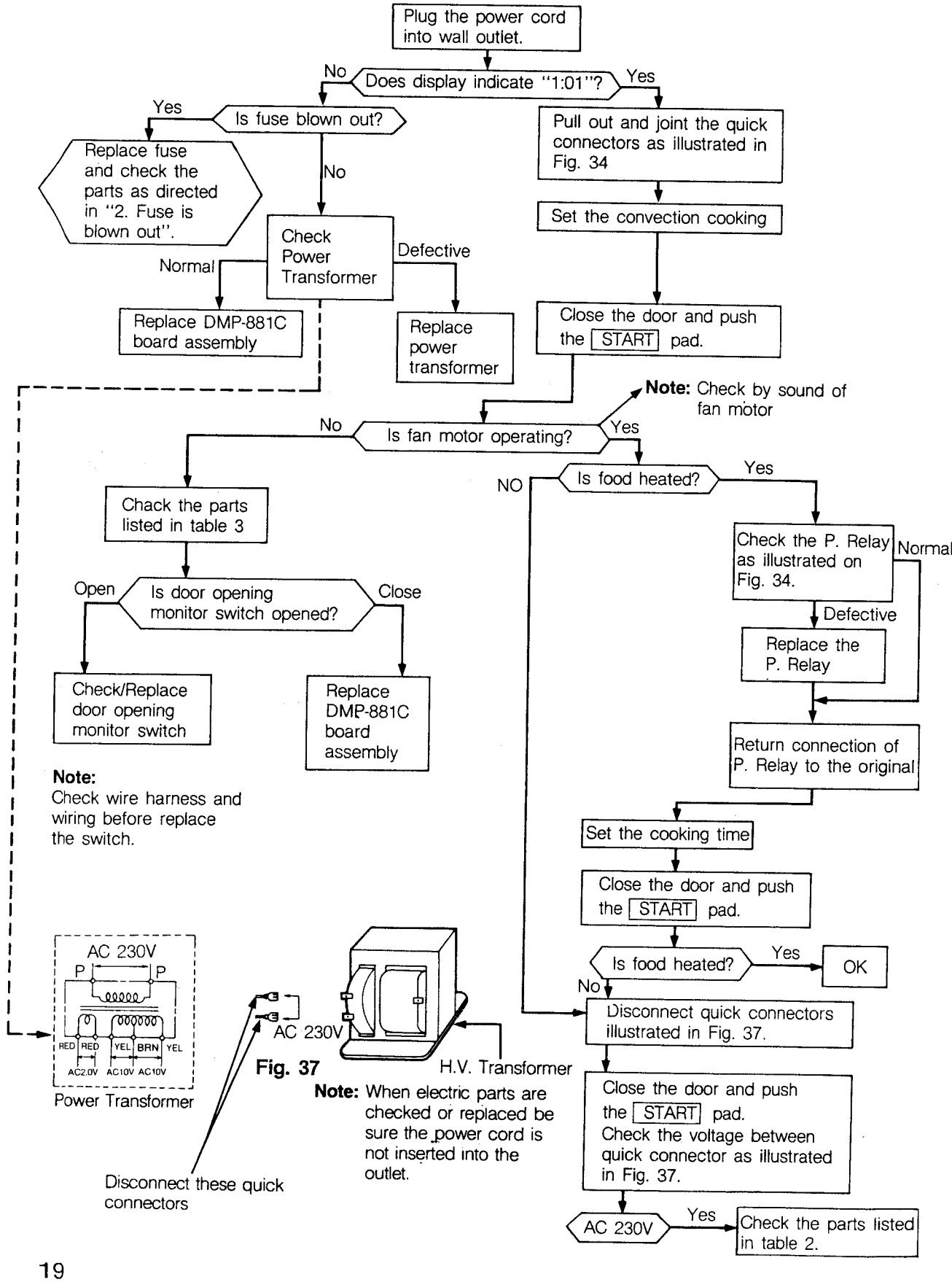


Fig. 37

Note: When electric parts are checked or replaced be sure the power cord is not inserted into the outlet.

Table 2

Parts	Cause	Diagnosis	Remedy
Magnetron	1) Open magnetron heater	Check continuity of magnetron heater with wires removed using multimeter. If there is no continuity, magnetron heater is open.	Replace magnetron
	2) Shorted magnetron	Connect megger leads to magnetron terminals and magnetron body. If there is continuity, magnetron is defective. (In this event, main fuse will be blown.)	Replace magnetron
Rectifier	Defective rectifier	Check continuity, of rectifier in forward and backward direction with DC megger. If there is continuity in backward direction, rectifier is defective. (In this event, high-voltage capacitor will become hot.)	Replace rectifier
H.V. transformer	Open coil of H.V. transformer	Check primary coil and secondary coil for continuity. If there is no continuity, transformer is defective.	Replace H.V. transformer
H.V. capacitor	Shorted H.V. capacitor	Check continuity of capacitor terminals with wires removed. If there is continuity, capacitor is defective. If capacitor shorts, fuse is blown out.	Replace H.V. capacitor
H.V. fuse	Open fuse	Check continuity of H.V. fuse with wire removed using multimeter. If there is no continuity, H.V. fuse is open.	Replace H.V. fuse

Table 3

Parts	Cause	Diagnosis	Remedy
Secondary interlock switch	Poor contact of secondary interlock switch	Check the terminal for electrical continuity with wires removed using multimeter, according to Electrical Continuity check of Interlock Switch on page 22.	Replace or adjust.
Primary interlock switch	Poor contact of primary interlock switch		

Table 4

Parts	Cause	Diagnosis	Remedy
Cavity lamp does not illuminate, when door is open.	1) Fuse blown out.	Check fuse in fuse holder.	Replace fuse and check the parts as direction in "2 fuse is blown out".
	2) Poor contact of power cord.	Check power cord for continuity. Also check to see if power leads are securely wired.	Adjust or replace power cord.
	3) Lamp blown out.	Check lamp.	Replace lamp.
	Magnetron thermostat open.	Lamp does not illuminate, even after lamp is replaced when door is open. Check thermostat terminals for continuity with wires removed using multimeter. If there is no continuity between terminals, thermostat is defective.	Replace thermostat.
Fan motor or cooking tray does not rotate.	1) Defective fan motor.	If motor does not operate with 230V applied to motor terminals, motor may be faulty.	Replace motor.
	2) Defective geared motor	Check to see if 230V is preset at motor terminals. If so, motor will be defective.	Replace geared motor.
	3) Poor drive of the roller or turning shaft.	Check to see dust has accumulated on roller or turning shaft.	Clean
Sparking (or arcing in cavity).	Carbonized dust in oven.	Check whether dust accumulates on spatter shield or its support.	Clean oven cavity.
Microwave turns off during cook ing cycle.	1) Too small load of food.	If small amount of food is heated for a long time, microwave is turned off during operation.	To increase load, place a cup of water into oven cavity in addition to food to be cooked.
	2) Defective magnetron thermostat	Check thermostat terminals for continuity with wires removed using multimeter. If these is no continuity, thermostat is defective.	Replace thermostat.

MEASUREMENT

1. Microwave Output Power

1-1. Standard Method

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

1) Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 1,000 ± 5cc of potable water.
2) The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3) The oven and the empty vessel are at ambient temperature prior to the start of the test.
   The initial temperature of the water is 10 ± 2°c (50 ± 3.6°F).
   It is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the load is immediately placed on the center of the shelf which is in the lowest normal position. (Fig. 38).
4) Microwave power is switched on.
5) Heating time should be exactly 52 seconds.
   Heating time is measured while the microwave generator is operating at full power.
   The filament heat-up time for magnetrons is not included.
6) The initial and final water temperatures are selected so that the maximum difference between the ambient and final water temperatures is 5K.
7) The microwave power output P in watts is calculated from the following formula:

$$P = 4187 \times \triangle T/t$$

- $\triangle T$ is actual temperature rise.
- t is the heating time.

The power measured should be 800W ± 10%.

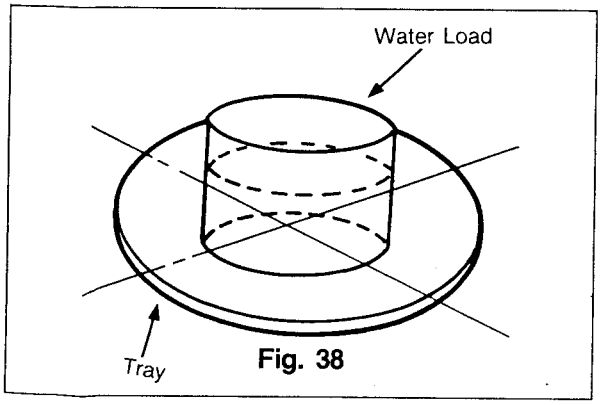


Fig. 38

CAUTION:
1. Water load should be measured exactly to 1 liters.
2. Input power voltage should be exactly 230V volts as specified.
3. Ambient temperature should be 20 ± 2°C (68 ± 3.6°F)

2. Microwave Heat Distribution Heat Evenness

The microwave heat distribution can be checked by indirectly measuring the water temperature rises at certain positions in the oven as directed below.

1) Prepare five beakers made of 'Pyrex' and having 100cc capacity each.
2) Measure exactly 100cc of water load with use of a measureing cylinder and pour it into each beaker.
3) Measure the temperature of each water load. (The readings shall be taken to one place of decimals.)
4) Put each beaker in place on the cooking tray as illustrated in Fig. 39 and start heating.
5) After heating 2 minutes, measure the temperature of water in beaker.
   Calculate the temperature difference for each water load to get the heat distribution rate by the following formula.

$$\text{Heat distribution rate} = \frac{\text{Minimum temperature rase}}{\text{Maximum temperature rise}} \times 100\%$$

The result should exceed 60%.

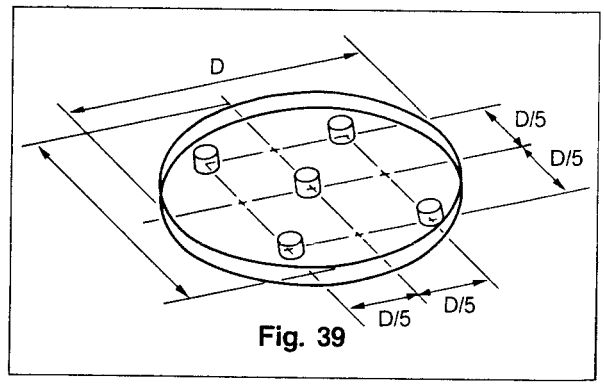


Fig. 39

3. Electrical Continuity Check of Interlock Switches

3-1. Procedures

NOTE: Remove the power plug from the wall receptacle before testing.

1. Primary Interlock Switch

1) Disconnect two connectors from Primary Interlock Switch.
2) Connect the ohmeter leads between the terminals of the primary interlock switch.
3) Read the value of resistance between the terminals of the switch, when the door is opened, and when the door is closed.

2. Secondary Interlock Switch

1) Disconnect two connectors from secondary interlock switch.
2) Connect the ohmeter leads between the terminals of the secondary interlock switch.
3) Read the value of resistance between the terminals of the switch, when the door is opened, and when the oven door is closed.

3. Interlock Monitor Switch

1) Disconnect the lead wire connecting the primary interlock switch and interlock monitor switch from primary interlock switch terminal.
2) Connect the ohmeter leads between the lead wire connector disconnected as item '1' and the power supply neutral plug pin.
3) Read the value of resistance between the lead wire connector and the power supply neutral plug pin, when the oven door is opened, and when the oven door, is closed.

3-2. Judgement

The value of resistance should be applied to the value specified below.

Door	Open	Closed
Primary Interlock Switch	∞	0
Secondary Interlock Switch	∞	0
Interlock Monitor Circuit	0	∞

When value obtained is not acceptable, the switch should be replaced or adjusted again.

4. Microwave Leakage Test

4-1. Warning

1) DO NOT place your hands into any suspected microwave leakage field unless the safe density level is known.
2) Always start measuring of an unknown field to assure safety for operating personnel from microwave energy.
3) Slowly approach the unit under test until the radiometer reads an appreciable leakage from the unit under test.
4) Care should be taken not to place the eyes in direct line with the source of microwave energy.

4-2. Method

The power density of the microwave leakage emitted by the microwave oven should not exceed 1mW/cm^2 at any point 50mm (2″) or more away from the external surface of the oven as measured prior to acquisition by a purchaser and thereafter once the oven is in use, 4mW/cm^2 at any point 50mm (2″) or more away from the external surface of the oven, checks to be made around the whole of the door seal and on each of the mainunit surface.
Measurements should be made with the oven operating at its maximum output and containing a load of 275 ± 15 milliliters of tap water initially at 20 ± 5°C (68 ± 9°F) placed within the cavity at the center of the load carrying surface provided by the manufacture. The water container should be a low from 600 milliliters beaker having an inside diameter of approximately 85mm (3-1 1/32″) and made of an electrically nonconductive material such as glass or plastic.

4-3. Procedures

1) Prepare 600cc glass or plastic container.
2) Pour 275 ± 15 milliliters of tap water initially at 20 ± 5°C (68 ± 9°F) in the container.
3) Place it at the center of the tray and set it in a cavity.
4) Operate oven.
5) Measure the microwave leakage using a Narda 8100 or similarly approved microwave leakage meter after a few minutes operation.

NOTE: The scan rate should not exceed 1 inch/sec.

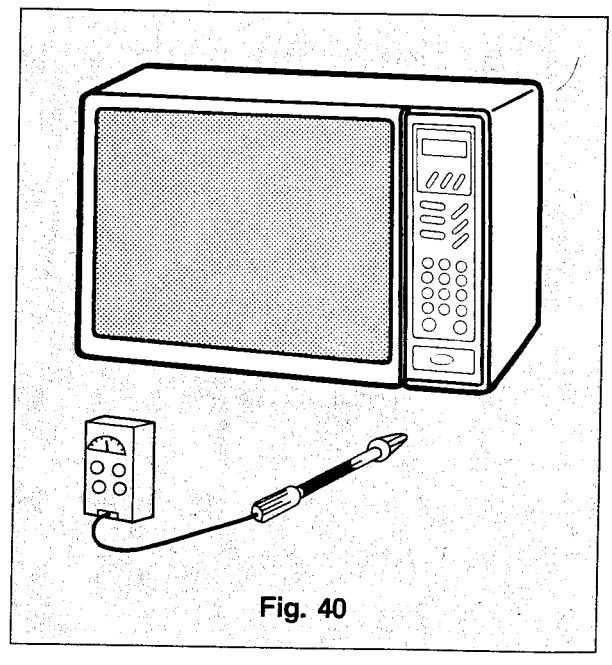
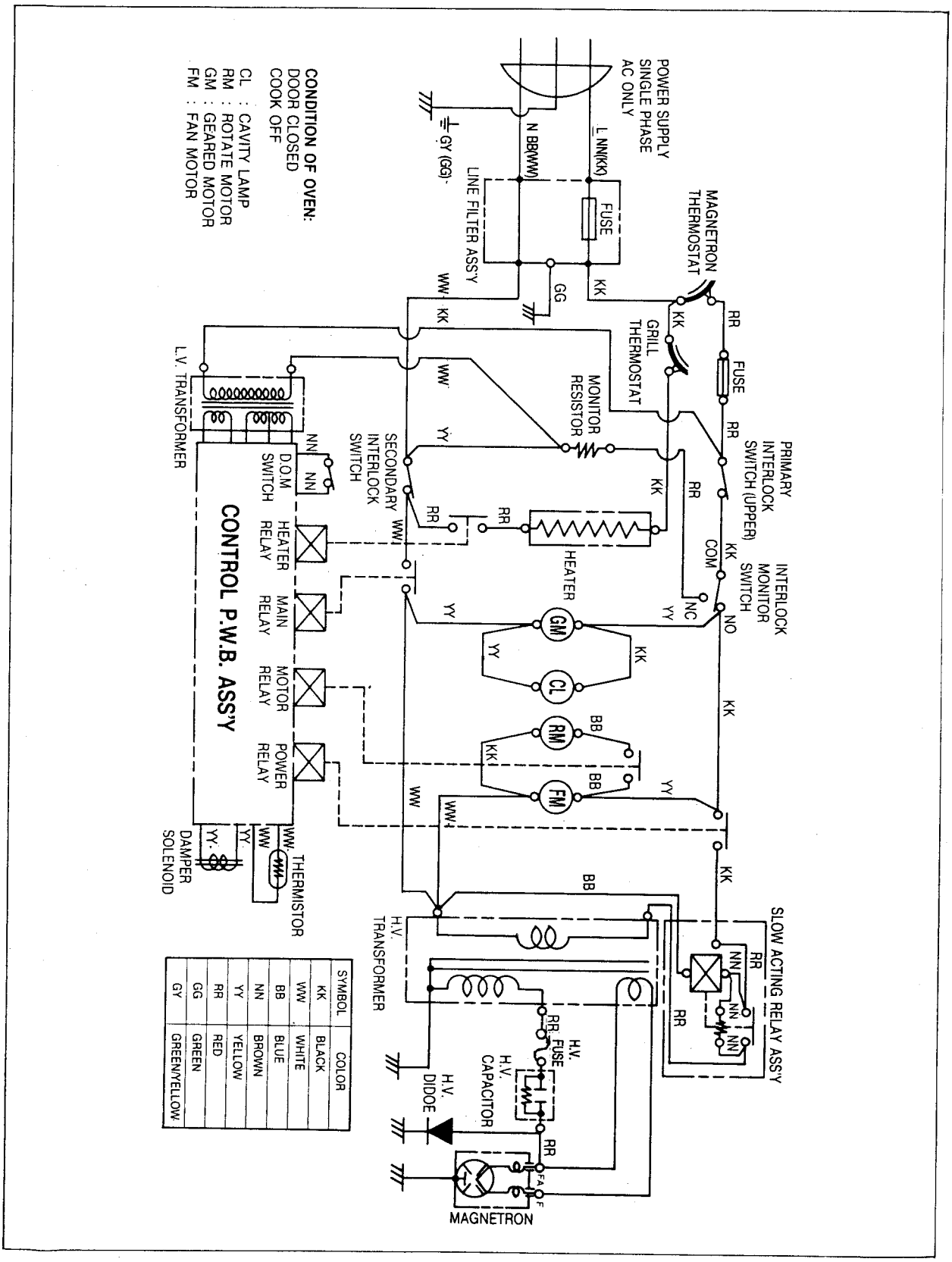


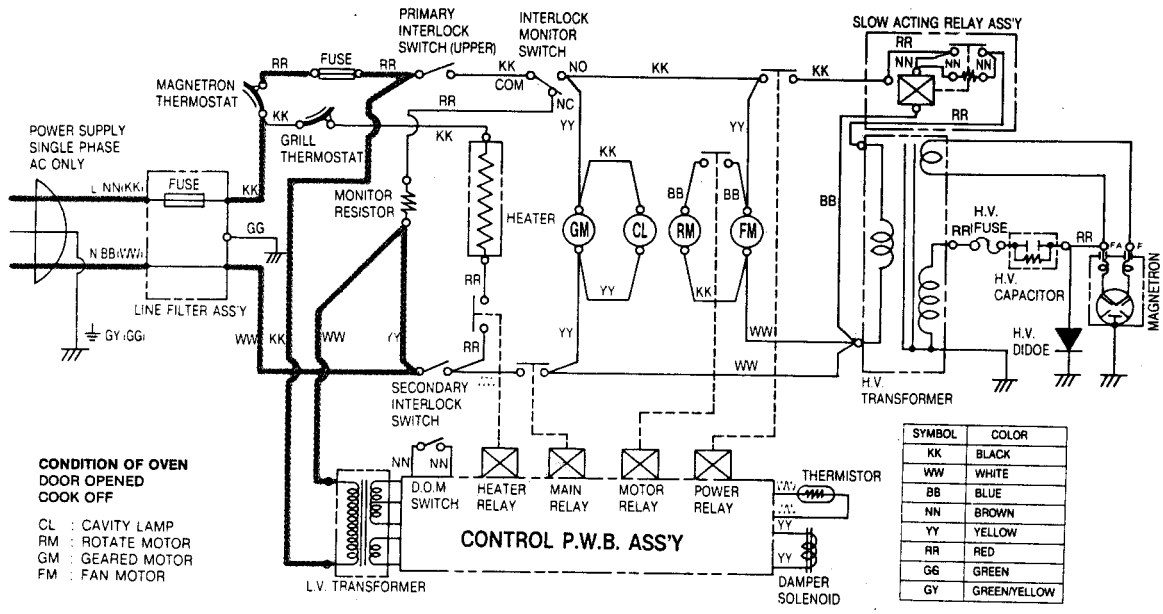
Fig. 40

WIRING DIAGRAM

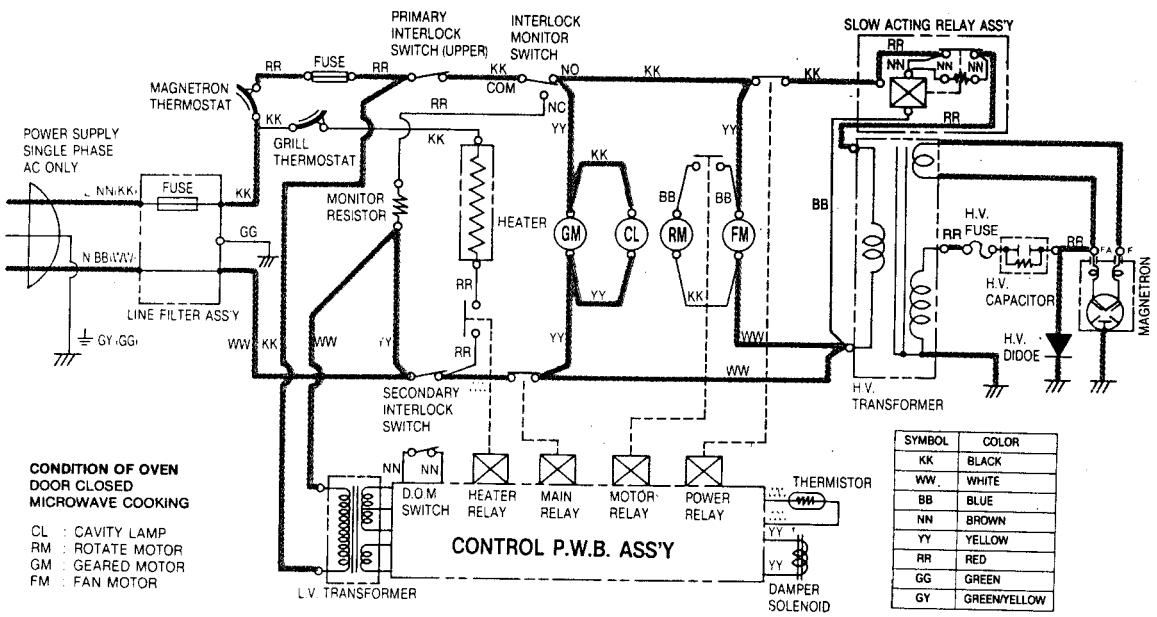


SCHEMATIC DIAGRAM

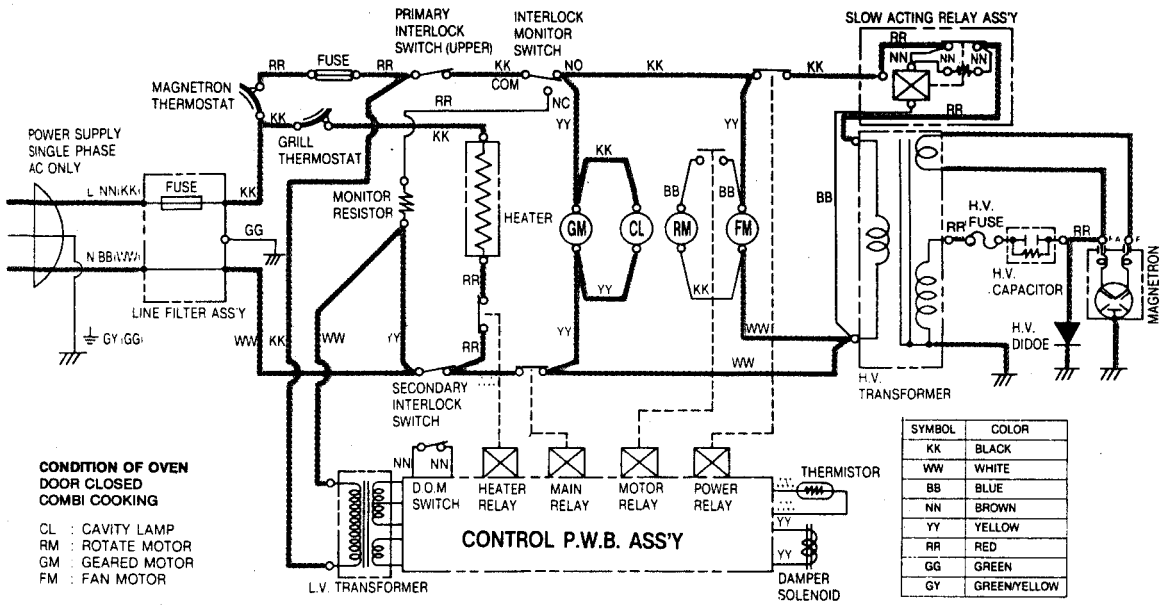
IDLE CONDITION



MICROWAVE COOKING CONDITION



COMBI COOKING CONDITION

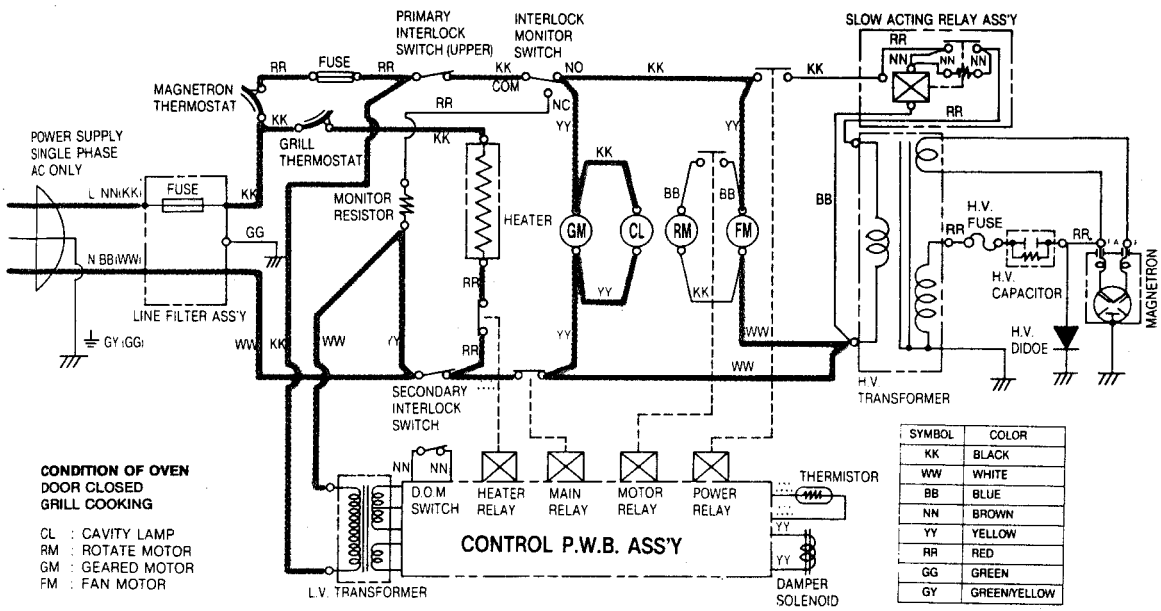


CONDITION OF OVEN
DOOR CLOSED
COMBI COOKING

CL : CAVITY LAMP
RM : ROTATE MOTOR
GM : GEARED MOTOR
FM : FAN MOTOR

SYMBOL	COLOR
KK	BLACK
WW	WHITE
BB	BLUE
NN	BROWN
YY	YELLOW
RR	RED
GG	GREEN
GY	GREEN/YELLOW

GRILL COOKING CONDITION

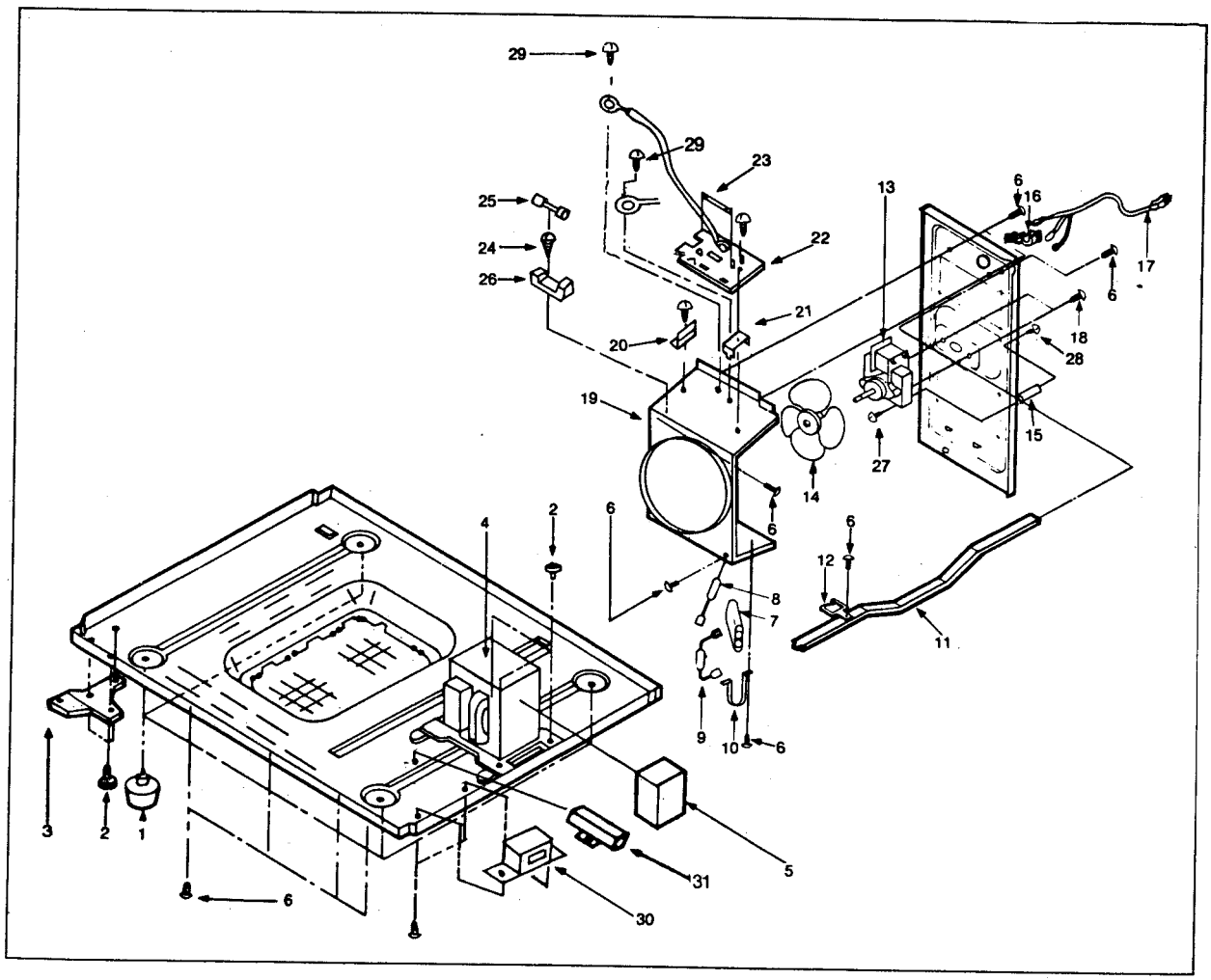


CONDITION OF OVEN
DOOR CLOSED
GRILL COOKING

CL : CAVITY LAMP
RM : ROTATE MOTOR
GM : GEARED MOTOR
FM : FAN MOTOR

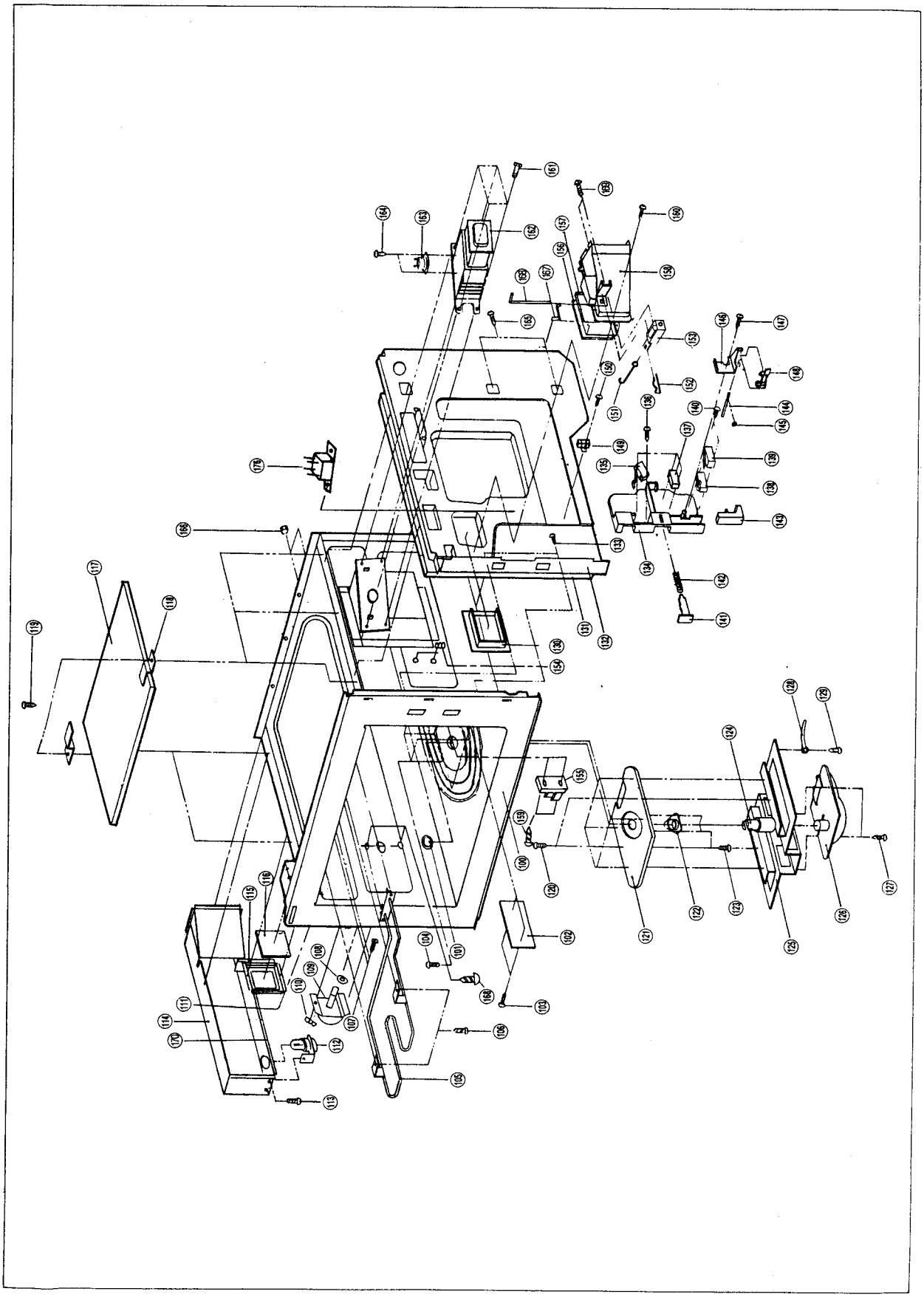
SYMBOL	COLOR
KK	BLACK
WW	WHITE
BB	BLUE
NN	BROWN
YY	YELLOW
RR	RED
GG	GREEN
GY	GREEN/YELLOW

EXPLODED VIEWS AND PARTS LIST



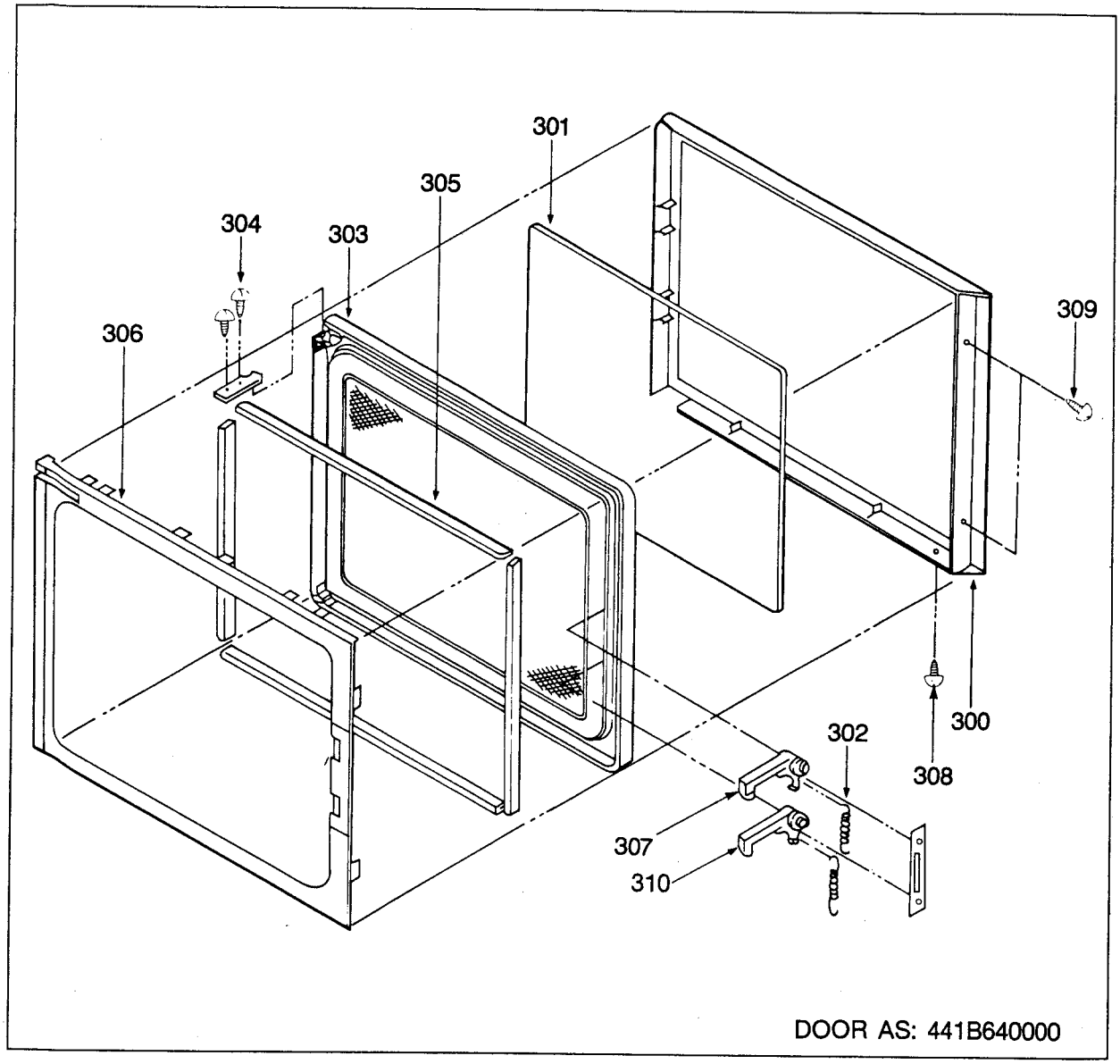
LOC. NO.	PART CODE	DESCRIPTION
1	4415B04042	Foot
2	7S327W50B1	Hex 5×12 MFZN
3	441B647040	Hinge Stopper Under
4	3518100700	H.V. Transformer
5	441B604022	Rubber
6	7112400811	Trs 4×8
7	441B627030	High Voltage Capacitor
8	4415824000	Recitifier (Diode)
9	441Q856100	H.V. fuse
10	441B627030	Capacitor Holder
11	441B633131	Connector Plate
12	441B633140	Wires Saddle
13	441CR15000	Motor Fan
14	441Z726010	Fan
15	3516001101	Special Bushing
16	441G254030	Cord Clamp

LOC. NO.	PART CODE	DESCRIPTION
17	441TM693G0	Power Cord
18	7051400811	Pan 4×8 MFZN
19	441B627025	Wind Guide
20	4415V57043	Noise Filter BKT 'A'
21	4415V57052	Noise Filter BKT 'B'
22	3518600100	Noise Filter Ass'y
23	4414A25100	Fuse, 15A
24	7121030811	Pan 3×8 MFZN
25	441B625S30	Fuse 8A
26	4414D25130	Fuse Holder
27	7122402011	T2S Trs 4×20
28	7181401211	T2S Pan 4×12 PW
29	7172401011	TT2 Trs 4×10 MFZN
30	5EPV048305	L.V. Transformer
31	4419J75030	Monitor Resistor



LOC. NO.	PART CODE	DESCRIPTION
100	3516100800	Cavity Weld Ass'y
101	441B617170	Teflon Spacer
102	441B611052	Wave Guide Cover
103	7113400814	Bin 4×8 MFNI
104	7113400814	Bin 4×8 MFNI
105	3512800100	Sheath Heater
106	7112400807	Trs 4×8 MFNI
107	7113400814	BIN 4×8 MFNI
108	441BE15312	Gasket
109	441BE15200	Barbecue Motor
110	7391400008	Nut 6N-1-4 SUS
111	DPTMK312D2	Thermistor
112	3513600200	Lamp
113	7112400611	Trs 4×6 MFZN
114	3512501400	H-Duct Ass'y
115	441B623030	Lamp Cover
116	441B623040	Lamp Glass
117	441P422061	Adiabator Top
118	441B622093	Adiabator Fix Plate
119	7S313B4081	Bin 3×8 MFNI
120	7112400811	Trs 4×8 MFZN
121	441G317011	B.R.K T-Motor top
122	441G317180	Hub
123	7141300811	Pan 3×8 MFZN
124	441G317031	Tray Motor Shaft
125	441G317020	B.R.K T-Motor Under
126	441U317100	Tray Motor
127	7112400811	TRs 4×8 MFZN
128	441B604030	Wire Clamp
129	7112400811	Trs 4×8 MFZN
130	441B618210	Silicon Cover
131	441BA18220	Adiabator Side
132	441B618205	Lock M/T Plate
133	7122400611	Trs 4×6 MFZN
134	441B618111	Lock
135	441B617310	Primary Interlock S/W
136	7141301611	Pan 3×16 MFZN
137	441R217310	Monitor Interlock S/W

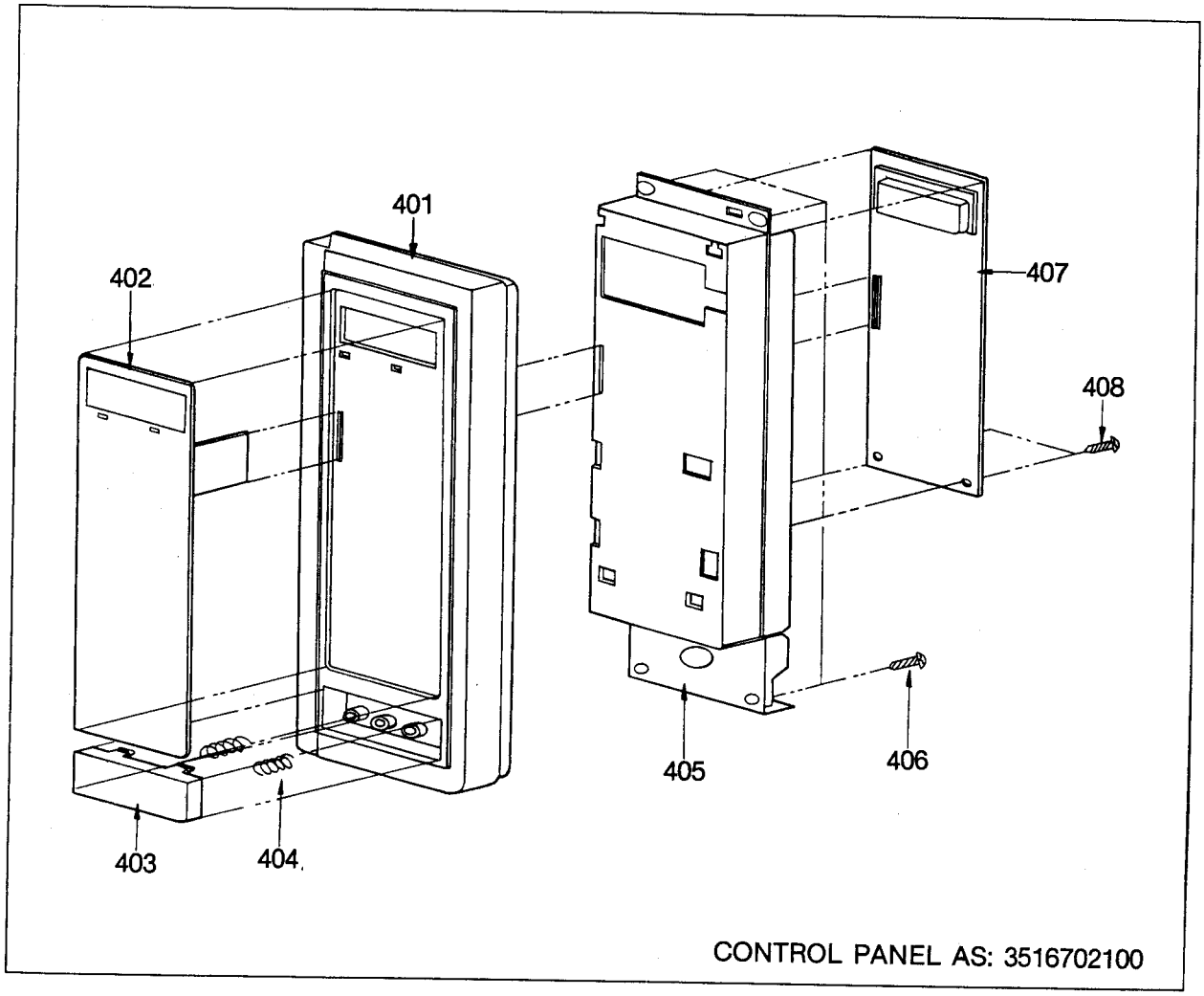
LOC. NO.	PART CODE	DESCRIPTION
138	441B617610	Door Open Monitor S/W
139	441B617410	Secondary Interlock S/W
140	7921303011	Pan 3×30 MFZN
141	441B618121	Slider Top
142	441B618160	Spring Lock
143	441B618130	Slider Under
144	441B618170	Lever Shaft
145	7402003031	E-Ring 3mm
146	441B618150	Lock Cover
147	7621401211	Trs 4×12 MFZN
148	441B618140	Push Lever
149	RX10H508J-	Monitor Resistor
150	7141300811	Pan 3×8 MFZN
151	441Q523050	Lever Solenoid
152	441Q523060	Snap Pin
153	441Q523200	Solenoid
154	7391400008	Nut 6B 1-4 SUS
155	441BE11060	Rotary Guide
156	441B624031	Damper Packing
157	441Z724021	Damper
158	441Z724011	Duct
159	7601401514	Pan 4×15 PW MFNI
160	7112400811	Trs 4×8 MFZN
161	7S327W50B1	Hex 5×12 MFZN
162	441U366100	Magnetron
163	4414D63000	Thermostat Magnetron
164	7279300611	Brs 3×6 MFZN
165	7112400811	Trs 4×8 MFZN
166	7S627W50X1	Nut M5×P0.8 MFZN
167	441Z724051	Damper Spring
168	441Z724041	Damper Shaft
169	7001300611	Pan 3×6 MFZN
170	7391400008	Nut 6B1-4 SUS
171	7601401514	Pan 4×15 PW MFNI
172	DPTMK312D2	Thermistor
173	7391400008	Nut 6N-1-4 SUS
174	7121030811	Pan 3×8 MFZN
175	441B663100	Grill Thermostat
176	4416W67211	Slow Acting Relay



DOOR AS: 441B640000

LOC. NO.	PART CODE	DESCRIPTION
300	441B640013	Door Frame
301	441B640020	Outer Barrier
302	441B640092	Spring
303	441B641000	Door Weld Assembly
304	7S327W50B1	Hex 5×12 MFZN

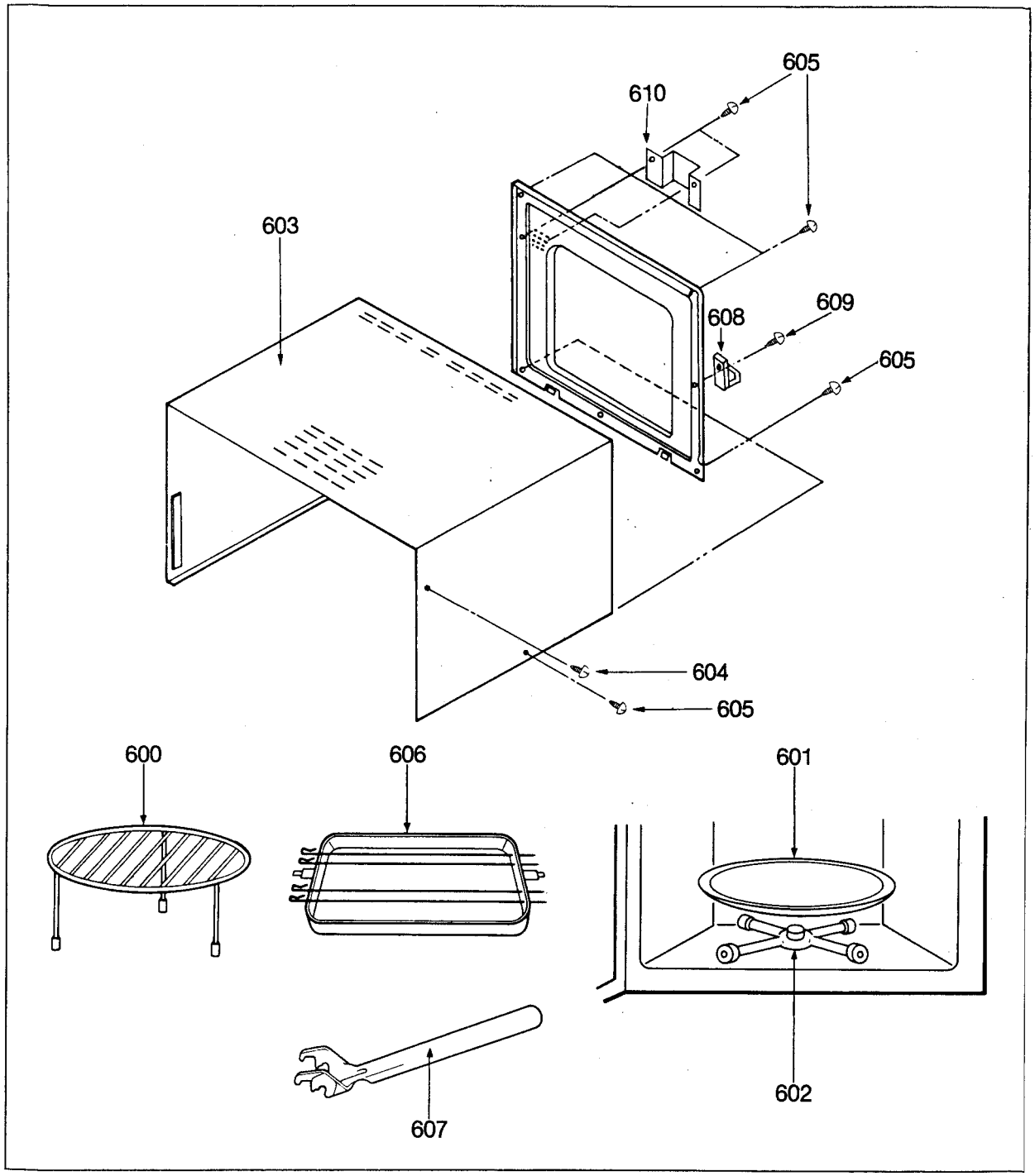
LOC. NO.	PART CODE	DESCRIPTION
305	441P444041~71	Ferrite Rubber
306	441B640033	Dust Cover
307	441B640130	Hook Top
308	7126401211	T2S OVL 4×12 MFZN
309	7111300811	Pan 3×8 MFZN
310	441B640104	Hook



CONTROL PANEL AS: 3516702100

LOC. NO.	PART CODE	DESCRIPTION
401	441Z755012	Panel Control
402	3518501000	Membrane AS'
403	441B655042	Button
404	441B655072	Spring

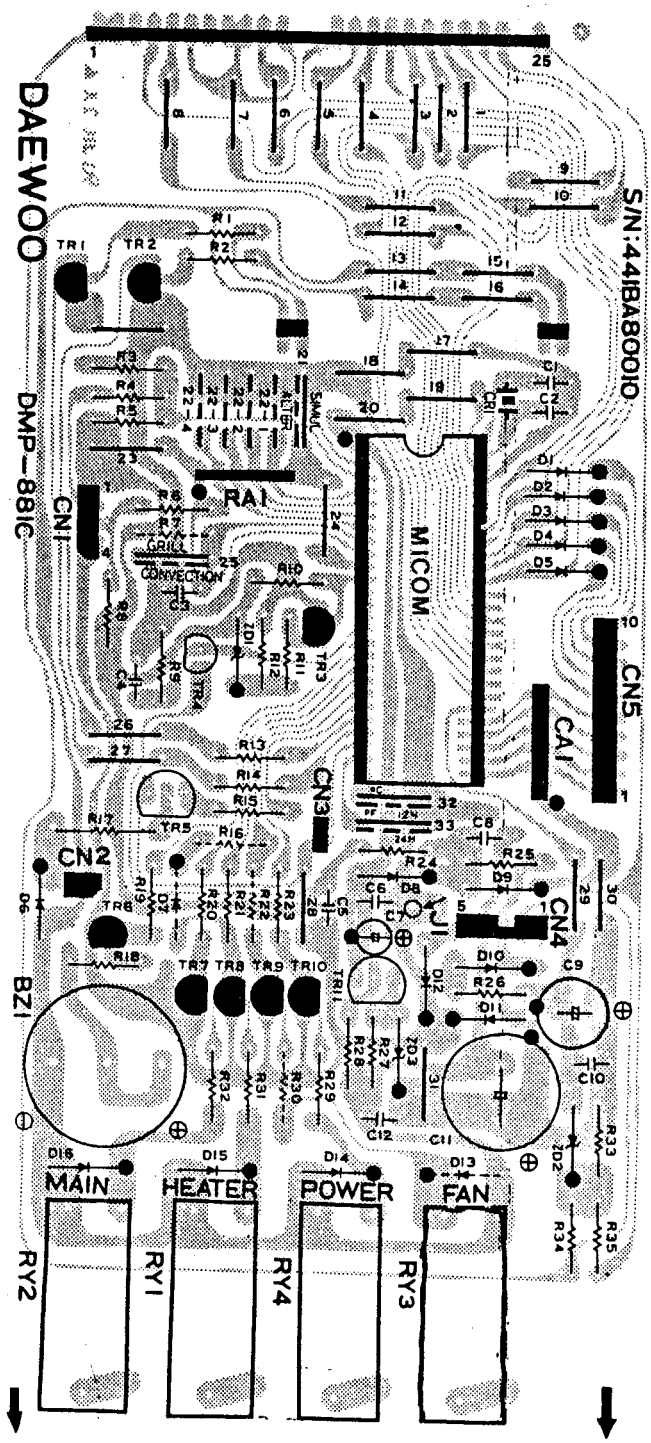
LOC. NO.	PART CODE	DESCRIPTION
405	441Z756000	Back-Plate C
406	7621401211	Trs 4 x 12 MFZN
407	3514300800	P.C. Board AS'
408	7621401211	Trs 4 x 12 MFZN



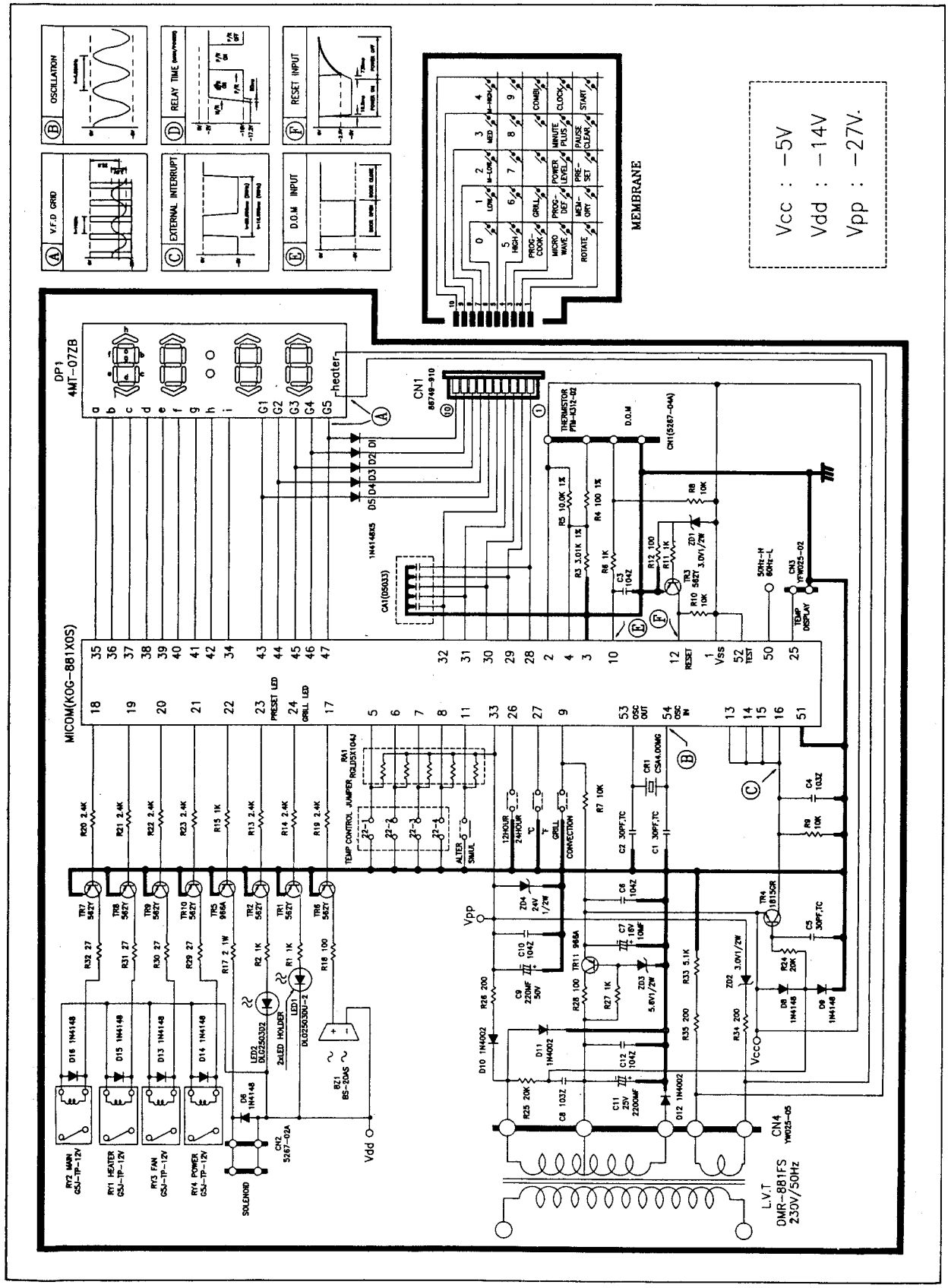
LOC. NO.	PART CODE	DESCRIPTION
600	441BA87300	Metal Rack Assembly
601	441B687410	Tray
602	441B687500	Rotating Base Assembly
603	441Z765014	Cabinet
604	7126401211	OVL 4×12 MFZN
605	7112400811	Trs 4×8 MFZN

LOC. NO.	PART CODE	DESCRIPTION
606	441BE87701	Roto-Gadget
607	4419M31011	Tongs
608	4414A542E1	Cord Holder
609	4414F92C40	T2 Lh Stic 4×10 MFZN
610	3517500400	Protector Wire

P.C.B (DMP-881C)


DAEWOO
DMP-881C
S/N:44IBA80010
MICOM
CN1
CN2
CN3
CN4
CN5
RA1
BZ1
MAIN
HEATER
POWER
FAN
RY1
RY2
RY3
RY4
CONVECTION
GRILL

P.C.B CIRCUIT DIAGRAM

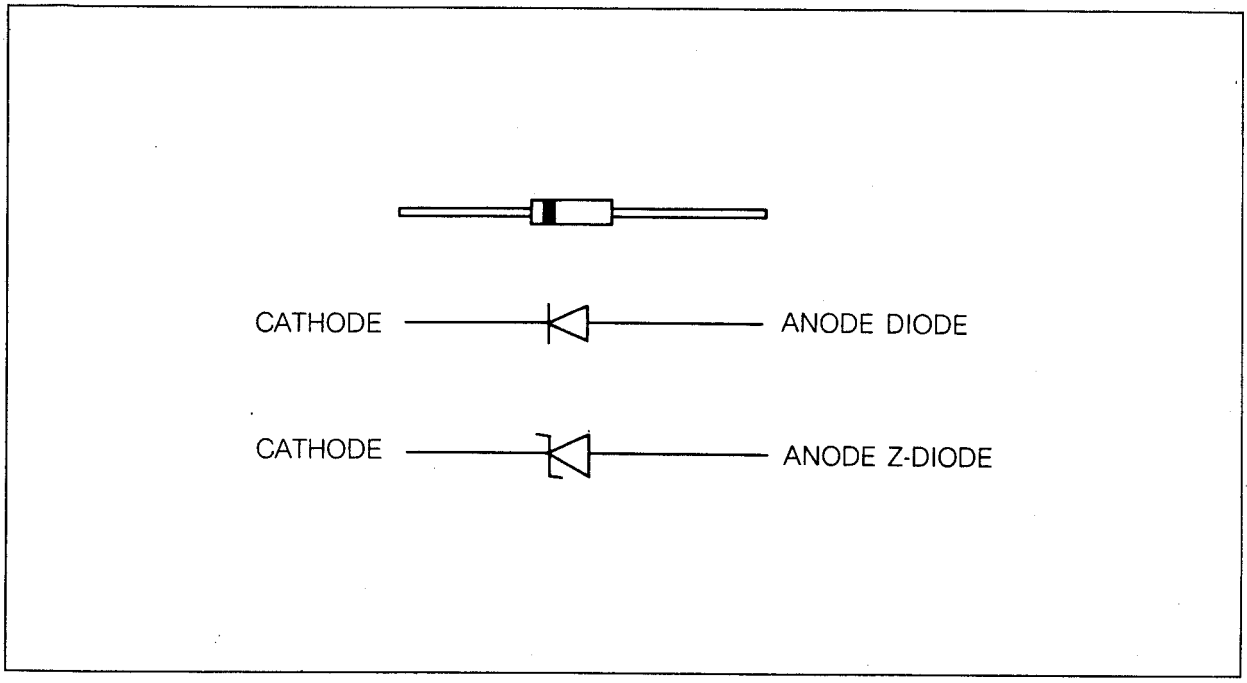


P.C.B LOCATION NO

NO.	NAME	SYMBOL	TYPE NO.	REMARK
1	C-ARRAY	CA1	D5033	
2	BUZZER	BZ1	BS-20AS	
3	CAPACITOR	C4, C8	0.01μF 50V	CERAMIC
4	CAPACITOR	C3, C6, C12, C10	0.1μ 50V	CERAMIC
5	CAPACITOR	C1, C2, C5	30pF 50V	CERAMIC
6	CAPACITOR	C7	10μF, 35V	ELECTRO
7	CAPACITOR	C11	2200μF 25V	ELECTRO
8	CAPACITOR	C9	220μF 35V	ELECTRO
9	CONNECTOR	CN2	5267-02A	
10	CONNECTOR	CN1	5267-04A	
11	CONNECTOR	CN4	YW025-05	
12	DIODE	D10, D11, D12	1N4002	RECTIFY
13	DIODE	D1, D2, D3, D4, D5, D9, D6, D7 D8, D13, D14, D15, D16	1N 4148	SWITCHING
14	ZENER DIODE	ZD1, ZD2	UZ3.0B 1/2W	3.0V
15	ZENER DIODE	ZD3	UZ5.6B 1/2W	5.6V
16	DISPLAY	DP1	SVM-5BS01	V.F.D
17	EARTH-WIRE	J1	UL1015WAG16	
18	FILM CONNECTOR	CN5	86749-910	
19	L.E.D	LED2	DLG-2503D	GREEN
20	L.E.D	LED1	DLO-2503DU-2	ORANGE
21	L.E.D HOLDER	HOLDER1, 2	441Z980050	
22	MICOM	MICOM	MO-KOC-881C	
23	RELAY	RY1, RY2, RY3, RY4	G5J-TP-1-12V	
24	R-ARRAY	RY1	RGLD5 X 104J	
25	RESISTOR	R5	10K Ohm 1/4W 1%	
26	RESISTOR	R4	100 Ohm 1/4W 1%	
27	RESISTOR	R12, R18, R28	100 Ohm 1/4W 5%	
28	RESISTOR	R8, R10, R7 R9	10K Ohm 1/4W 5%	
29	RESISTOR	R15,R6, R1, R2, R11, R27	1K Ohm 1/4W 5%	
30	RESISTOR	R20, R21, R19, R22, R16, R13, R14, R23	2.4K Ohm 1/4W 5%	
31	RESISTOR	R26, R34, R35	200 Ohm 1/4W 5%	
32	RESISTOR	R24, R25	20K Ohm 1/4W 5%	
33	RESISTOR	R32, R29, R30, R31	27 Ohm 1/4W 5%	
34	RESISTOR	R17	2 Ohm 1W 5%	METAL OXIDE
35	RESISTOR	R3	3.01K Ohm 1/4W 1%	
36	RESISTOR	R33	5.1K Ohm 1/4W 5%	
37	RESONATOR	CR1	CSA4.00 MG	4 MHz
38	SPONGE	SPONGE	12 X 20 X 6	
39	TRANSISTOR	TR9, TR1, TR2, TR3, TR6, TR7, TR8, TR10	KSA562TMY	
40	TRANSISTOR	TR5, TR11	KSA966A	
41	TRANSISTOR	TR4	KSC1815GR	

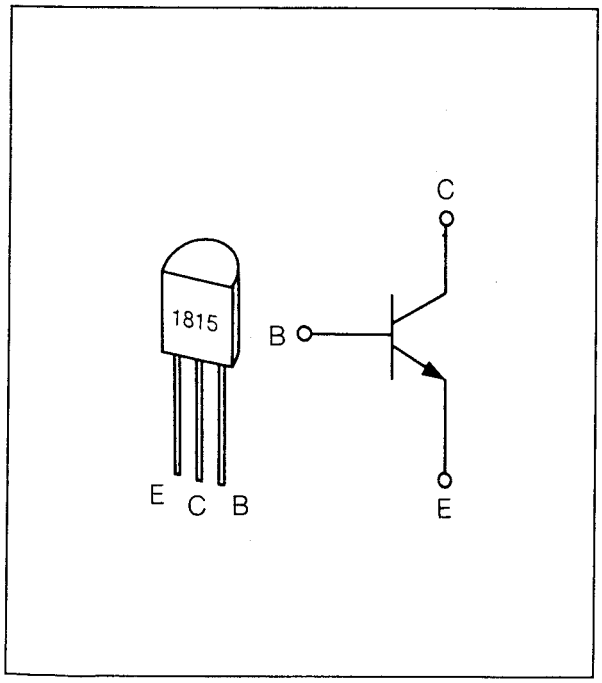
COMPONENT INFORMATION

1) Diode and Zener Diode



2) Transistor

•C1815, GR



•A562TMY, A966A